NORTHEAST MARKETING ISSUE
Pages 9-16

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INDUSTRY WEEK

Stauffer Chemical to Build 400-Ton Sulfuric Acid Regeneration Plant

NEW YORK — Stauffer Chemical Co. will build a 400-ton-per-day capacity sulfuric acid regeneration plant at Hammond, Ind., which will process oil refinery sludge acids according to Hans Stauffer, president of Stauffer. Construction of the new, highly-automated plant will begin at once and full scale production is scheduled to begin next July, he said.

It is estimated that Stauffer's investment in the new facility will be in excess of $4,000,000.

Company officers cited two reasons for establishing the new sulfuric acid project in Hammond: The ready availability of adequate supplies of raw materials, and to better serve the process acids needs of the many oil refineries in the Hammond-Whiting-Chicago area.

The new Hammond plant, when completed, will be the eighth major sulfuric acid regeneration installation which Stauffer has built in recent years. The company, which is currently the world's largest producer of regenerated acid, now has such plants in Houston, Texas; Baton Rouge, Louisiana; Baytown, Texas; Dominguez, California and Hammond.

New Urea Plant Planned by Spencer for Construction at Henderson, Ky., Location

KANSAS CITY — Spencer Chemical Co. has announced plans to construct a new urea plant at the company's Henderson, Kentucky Works. Kenneth A. Spencer, president, stated that the new facility will produce approximately 100 tons a day of urea and should be completed in the summer of 1958. The company already produces urea at its Vicksburg, Mississippi Works.

Mr. Spencer said that the addition of this urea capacity will provide the company increased flexibility in its program of upgrading ammonia to a broad variety of marketable products. The new facilities will convert a portion of the ammonia currently produced at the Henderson Works to the urea-type solutions already produced at Vicksburg and also to prilled solid urea, an addition to the company's product line. Mr. Spencer stated that the urea expansion is in response to increased demands for urea for certain applications.

The firm is a major producer of synthetic nitrogen with integrated nitrogen plants at Pittsburg, Kansas and Vicksburg, Mississippi as well as at Henderson, Kentucky.

Soybean Nematode Quarantine Area Outlined by USDA

WASHINGTON, D. C.—Three localities and 32 individual premises in Missouri, North Carolina, and Tennessee became regulated July 26 under quarantines issued by the USDA because of the presence of soybean cyst nematode, the U.S. Department of Agriculture has announced.

Products and articles affected include: Live soybean cyst nematodes, soil, nursery stock and other plants with roots attached, root crops, bulbs, soybeans, small grains, hay, straw, fodder, and plant litter of any kind; seed cotton, used farm tools and harvesting machinery, used construction and maintenance equipment, used sacks and other containers for farm products, and other machinery and vehicles that might spread the pest.

Provisions are made for allowing movement of most of the regulated products and articles following inspection or treatment, or under other conditions of handling or sanitary practices that render them safe for movement.

Counties containing regulated localities or premises are: Pemiscot and New Madrid Counties, Missouri; New Hanover and Pender Counties, North Carolina; and Dyer, Lake, Lauderdale, and Obion Counties, Tennessee.

Commerce Report Lists First Quarter Production

WASHINGTON, D.C.—Production of anhydrous ammonia, ammonium nitrate, urea, potash, and phosphoric acid increased in the U.S. during the period of January-March, 1957, over the same period of last year, according to U.S. Department of Commerce reports. In its monthly publication, "Chemical and Rubber Industry Report," the Department said that anhydrous ammonia production in that period of 1957 was 917,340 tons as compared to 882,532 tons for the early part of 1956.

Fertilizer grade ammonium nitrate hit 545,836 tons in 1957, as compared to 540,481 tons last year.

Potash production rose to 685,917

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Potash Deliveries Increase 8% for '56-57 Fiscal Year

—See Table Page 8—

WASHINGTON, D. C.—Potash deliveries in North America by the eight leading American potash producers and the importers amounted to 2,390,584 tons K_2O during the fiscal year of June 1956 through May 1957, according to the American Potash Institute. This represents an increase of less than 8% over 1955-1956. The deliveries were made in 46 states, the District of Columbia, Canada, Cuba, Hawaii, Puerto Rico, and a few other countries, API says.

Potash for agricultural purposes in the Continental United States amounted to 1,887,887 tons K_2O, an increase of over 2% over last year. Canada received 89,600 tons K_2O, a decrease of less than 1%; Cuba, 16,519 tons, an increase of 5%; Puerto Rico, 20,296 tons, an increase of 1%; Hawaii, 21,084 tons, a decrease of 1%; and other countries, 236,532 tons, an increase of 128%, compared to last year.

Illinois was the leading state for deliveries, followed in order by Ohio, Indiana, Georgia, Florida, and Virginia. (Deliveries do not necessarily correspond to consumption in a given state.) Muriate of potash was the principal grade, comprising over 92% of the total agricultural potash delivered while sulphate of potash and sulphate of potash-magnesia together made up more than 7% of deliveries.

Deliveries of non-agricultural potash amounted to 118,666 tons K_2O, a decrease of 4% under 1955-56. The muriate grade made up 96% of non-agricultural deliveries and sulphate of potash 4%.

Application Problems Aired At NH_3 Meeting

Many Applicators Stay Home to Catch Up on Work Delayed by Rains

By THOMAS E. LETCH
Croplife Editorial Staff

MANHATTAN, KANSAS—Despite a relatively small attendance caused by the vagaries of unusual weather, the fifth annual Great Plains Agricultural Ammonia Conference held at Kansas State College here July 11-12 presented a helpful program. The group heard talks on business aspects of ammonia application, on tests to determine nutrient needs in the soil, and on the beneficial effects of irrigation.

Registration was about 75 persons, compared to between 200 and 300 counted in previous years. Many anhydrous ammonia applicators who would normally be on hand, were still applying nitrogen to fields because frequent rains earlier in the season had thrown them off schedule. The conference was sponsored by Kansas State College in cooperation with the Agricultural Ammonia Institute and the Anhydrous Ammonia Association of Kansas.

The keynote of the conference was set by Dr. G. H. Beck, acting dean of agriculture, when he pointed out the trend toward a more intensified agriculture. The farm population is dwindling, he said, and each year about a million acres of farm land

(Continued on page 17)

NEW YORK CONFERENCE TOLD

Putting Research Results Into Farming Practice Is Today's Biggest Job in Agriculture

ITHACA, N. Y.—An expanded program to get farmers to act on information given them was outlined July 15 to 70 representatives of the fertilizer industry gathered at Cornell University.

Dr. W. H. Garman, chief agronomist for the National Plant Food Institute, Washington, D. C., said the big problem in agriculture today is not research, but getting farmers to put research information into practice.

Dr. Garman spoke during a two-day fertilizer conference sponsored by the agronomy department of the New York State College of Agriculture at Cornell.

The technical agronomists, sales managers and representatives of industry associations at the conference also:

Heard Dr. Charles E. Palm, director of the experiment station cite problems facing the fertilizer industry, and outline research being done at Cornell;

Heard Dr. Nyle C. Brady, head of Cornell's agronomy department, describe nitrogen research underway at the college; and

Toured the college's research plots for a first-hand report on field work being done by Cornell scientists.

Dr. Garman said: "If a farmer doesn't take advantage of information available to him, he won't make a profit. And if he doesn't make a profit he won't be around very long. We've lost about 500,000 farms in the past five years largely because their operations were too small to be efficient."

Dr. Garman reported that the In-

(Continued on page 8)

Smith-Douglass Names New Head

NORFOLK, VA.—Willard A. Ashburn was elected president of Smith-Douglass Co. at a meeting of the board on July 16. Ralph B. Douglass, whom Mr. Ashburn succeeds as president, was made chairman of the board, a newly-created office. In this position, Mr. Douglass will have the responsibility for general supervision of the company. Both changes became effective on August 1.

Mr. Ashburn was a practicing attorney in Norfolk before joining the executive management of Smith-Douglass in 1953. Mr. Douglass reached retirement age last year, and the new position of board chairman was created at his request.

At the same meeting, the company's board of directors named J. T. Dineen a director, to fill an existing vacancy. Mr. Dineen is a partner in F. Eberstadt & Co., New York investment firm. The board also declared a fourth quarter dividend of 30¢ a share on common stock payable August 20, to shareholders at the close of business July 26.

Mr. Ashburn began practicing law in 1921 after graduation from the University of Virginia. Prior to joining the Smith-Douglass staff in 1953, he had served as the company's general counsel for a number of years. In January of this year, he was elected the company's senior vice president.

Mr. Douglass joined the Smith-Douglass firm in 1927 as vice president and has been president since the death of the founder, Oscar F. Smith, in 1950. Previously he had been vice president of the Eastern Cotton Oil Co.

Smith-Douglass operates eleven plants in ten cities, and recently acquired Texas City Chemicals, Inc., a multi-mililon dollar chemical plant in the Galveston-Houston area.

Michigan Chemical Reports Bigger 1957 Net Profit

SAINT LOUIS, MICH.—For the six months ended June 30, 1957, Michigan Chemical Corp. reports a net profit after taxes of $0.50 a share of common stock as compared to $0.31 a share for the comparable period of 1956. The earnings were $347,295 in 1957 against $212,123 in the 1956 six month period, the firm says.

Net sales for the 1957 first half were $4,285,182 and $3,588,997 for the same period of 1956, a gain of 19%.

For the second quarter of 1957, net earnings were $182,877 or $0.26 a share, against $166,760 or $0.24 a share for the second quarter of 1956. Net sales for the second quarter of 1957 were $2,269,685 as compared with net sales of $2,099,715 in the similar period of 1956.

Francis E. Cook

STAUFFER APPOINTMENT—Francis E. Cook, recently was named manager of the newly organized sales development department of Stauffer Chemical Co.'s Agricultural Chemical Division. A graduate of the University of California, Mr. Cook will be responsible for promoting and developing sales of such newly developed agricultural chemicals as Captan, Vapam, Trithion and other compounds now emerging from Stauffer's research laboratories.

Atlas Powder Reports Dip in Net Earnings

WILMINGTON, DEL.—Although sales and operating revenues were up 6% in the first half of 1957, Atlas Powder Co. reports a slight drop in net earnings during the period. Ralph L. Gottshall, president, states that revenue for the first half of 1957 was $35,133,344 as compared to $32,960,489 in the same period of 1956.

Mr. Gottshall said that the decline in earnings for the period resulted from higher costs of materials, services and employment, as well as a less favorable product mix than in the same period of last year. He added that selling prices of some products were increased early in the third quarter, and that this should offset the higher costs to some extent during the final six months of the year.

Fall Agronomy Field Day Planned for Nebraska

LINCOLN, NEB.—The annual Agronomy Fall Field Day at the University of Nebraska will be Sept. 6, Clinton Hoover, assistant Extension ogronomist and chairman of the event, announced.

Dedication of the agronomy building as Keim hall will highlight the morning program on the College of Agriculture campus. The morning activities also will include talks on various agronomic topics. The afternoon program will be devoted to a tour of the Agronomy farm, Mr. Hoover says.

CONVENTION SPEAKERS, OFFICERS—New officers for the North Central States Assn. of Dairy, Drug, Food, Feed, Fertilizer and Pesticide Officials elected at the recent annual meeting and the speakers for the meeting are pictured here. Officers shown, left to right, are Howard Hammond, North Dakota, vice president; I. Levin, Iowa, retiring president, and Charles Holcombe, Minnesota, president. Speakers, left to right, are Clyde Spry, secretary of the Iowa department of agriculture; Maurice P. Kerr, U.S. Food & Drug Administration, and Waldo C. Johnson, Minnesota department of agriculture.

V-C to Market New Cotton Defoliant

RICHMOND, VA.—A new cotton defoliant, reported to operate regardless of weather or rankness of cotton, has been announced by Virginia-Carolina Chemical Corp. The new product, to be test marketed in Mississippi, Arkansas, Arizona and California this season, will be sold under the trade name "Folex." It contains the new chemical merphos (tributyl phosphorotrithioite) developed by V-C. "Folex" is compounded specifically for cotton defoliation and will be marketed through the agricultural chemicals section of its chemicals division.

According to Frank Boyd, the company's southern agronomist, the new defoliant does not depend upon dew for activation and is said to remove immature as well as mature leaves from the plant. He reports that it is not necessary to apply large quantities of "Folex," no special equipment is required, since the chemical is non-corrosive. The new V-C defoliant is a liquid concentrate which mixes readily with water. It can be added to the spray tank and by the time the tank is filled with water, mixing is complete, the makers state. It may be applied by both ground and aerial spray equipment.

Louis H. Wilson Heads Farm-City Week Group

WASHINGTON—Glenn Sample, chairman of Farm-City Week for 1957, has named Louis H. Wilson, secretary and director of information of the National Plant Food Institute, as chairman of the National Participation Development Committee for the event to be observed Nov. 22-28. Farm-City Week is designed to foster a better understanding between farmers, industrial workers and business men. The National Farm-City Week Committee includes representatives from industry, farm organizations, governmental agencies, educational institutions and community service groups. The National Plant Food Institute has supported Farm-City Week since its inception in 1955.

New Emphasis on Quality Made in Pasture Contest

BURLINGTON, VT.—Providing adequate high quality forage for winter feeding will receive greater attention in this summer's New England Green Pastures Program according to Harry R. Mitiguy, agricultural economist of the Federal Reserve Bank, Boston, chairman of the Green Pastures committee.

Judges in the tenth annual contest this year will put more weight on the harvesting, storing and utilizing of winter forage, and will give somewhat less attention to actual forage production. About 25% of the score sheet will be devoted to the preparation and feeding of winter forage.

It is a start in what the directors of the contest hope will be a redirection of the enterprise along lines which will stimulate its greater use by county agents and farmers as an effective educational tool.

Vermont's Green Pastures farmers have already been placing stress on year-around availability of quality forage, points out Winston Way, Vermont extension agronomist.

Mr. Mitiguy explains that tremendous advances have been made in forage production on many New England farms since the program was inaugurated in New Hampshire in 1947. But the judges have concluded over the past three years that even on farms with better forage programs, the quality of forage available for the barn feeding period can be much improved.

FFA AWARD—Wilson Meyer, president of Wilson & George Meyer & Co., Pacific Coast distributors of agricultural and industrial chemicals and plastics, has had conferred on him by the Future Farmers of America the honorary degree of state farmer in recognition of his outstanding work for farm youth. Gordon Hill, president of FFA, California, is shown above presenting the degree. Mr. Meyer, in addition to heading the 107-year-old firm, is also president of No. 1A District Agricultural Assn., a state agency which owns and operates the famous Cow Palace on the San Francisco-San Mateo County boundary line, scene of the 1956 Republican National Convention. The Cow Palace is the home of the annual Grand National Livestock Exposition, Horse Show and Rodeo and its counterpart, the Grand National Junior Livestock Exposition, which attracts more than 3,000 farm boys and girls, members of the Future Farmers of America and 4-H Clubs, each Easter vacation to exhibit their livestock and compete for awards.

Miller Publishing Co. Board Chairman Retires

MINNEAPOLIS—The retirement of Carroll K. Michener as chairman of the board of The Miller Publishing Co., publisher of Croplife, has been announced. Mr. Michener, who has completed a 40-year career with the company, was editor of Croplife's affiliate publication, The Northwestern Miller.

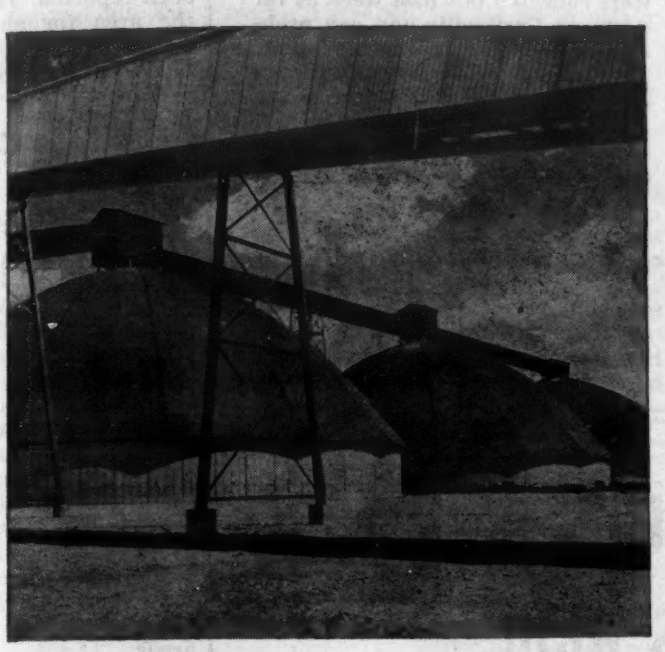
Mr. Michener, who had extensive journalistic experience both in this country and abroad before joining the company, is the author of, and collaborator on a number of books and articles and plans to devote his time to writing and traveling in his retirement.

OKLAHOMA APPOINTMENT

STILLWATER, OKLA.—Dr. John F. Stone, co-inventor of a radioisotopic soil moisture determination instrument, has begun work in a new soil physics research and teaching position at Oklahoma State University. Besides teaching the first graduate course in soil physics ever offered at the university, Dr. Stone will specialize in irrigation research as well as study moisture conservation and tillage problems. He recently completed requirements for a Ph.D. degree at Iowa State college.

DATANAPERS

BOSTON—A year's research work in American agriculture was lost to a Chinese professor when thieves broke into his parcel locker at the Park Square bus terminal and stole his papers and $400. Prof. Tin Fei Chang of the University of Formosa, who has spent the past year teaching at the University of California, told police his locker was robbed. The professor told police that his agricultural survey papers are worthless to anyone else, but considered priceless by him because he hoped that would result in increased food production for China.



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INSECT AND PLANT DISEASE NOTES

Corn and Tobacco Hit in Maryland

COLLEGE PARK, MD. — Many kinds of insects are now present on corn though the crop on the Eastern Shore and Southern Maryland has been severely stunted by dry weather. European corn borer pupae found on the Lower Shore and in Frederick County—eggs and larvae in Frederick only. Early corn in Carroll County is heavily infested by borer. Ten per cent of the corn at Eastern Shore canneries with earworm. Sap beetles and their larvae are prevalent. In Wicomico County leaf aphids are conspicuous and one field had a high population of click beetles, which are the adults of wireworms. Grasshoppers noted on corn in Queen Anne's County. Growers of irrigated sweet corn will need to spray to protect from all insects.

Aphids are plentiful in the tops of the older tobacco, some of which is flowering early because of dry weather. Some aphids are dying, apparently from the heat, and predators are at work.

Spider mite damage is increasing on soybeans on the Eastern Shore, we say "because of dry weather." Actually, mites are present on well nourished plants but the injury shows up when drouth or other unfavorable condition stunts the plants.—Theo. L. Bissell and Wallace C. Harding, Jr.

Illinois Pests Getting Under Way in Crops

URBANA, ILL.—Pupation of first generation corn borer will be complete within a week from East St. Louis northward to about Jacksonville, and, in this area approximately 50% of the moths have emerged. Egg laying began here this week (July 25) in early fields where the moths emerged, but moths are leaving these early-planted fields. Moths are now emerging in eastern, central, and western Illinois.

Fall armyworms: Egg masses were collected this past week as far north as Carlinville and can probably now be found further north. There are still a few mature worms of the past generation present in corn, but most of them have already pupated, and a few moths are already laying eggs.

Leafhoppers are so plentiful that serious damage to third growth seems certain in most if not all alfalfa fields.

Grasshoppers are still abundant in some hay crop fields and along fence rows, roadsides, and ditch banks. However, to date, we have not seen spotted aphid infestations which warrant treatment but we have collected these aphids in counties bordering the Mississippi River as far north as Quincy.—H. B. Petty.

Japanese Beetles Move Into South Carolina

GREENVILLE, S. C. — An infestation of Japanese Beetles in the River Falls area of Greenville County has been reported. The insects, known in the area for about two years, are feeding mostly on flowers but are likely to attack almost any vegetable or shrub.

Lygus Bugs Continue as Chief Pest in Arizona

PHOENIX, ARIZ. — Lygus counts are very high in the Kansas Settlement, Elfrida, Bowie and Stewart areas. In most every case the counts justified the application of an insecticide. A few scattered bollworms were also noticed.

In Maricopa County, Lygus continue to be the principal harmful insect in most areas of the county. The bollworm populations over the county seem to be on the increase. Leaf perforators are increasing in the Buckeye, Peoria and Litchfield Park areas. In the Queen Creek area a few fields have heavy infestations of Loopers. Stink Bugs are being found in all areas.

Lygus counts are very high in undusted fields in Pima County in the Marana area. Some bollworms are appearing in some fields and control will be necessary soon. Stink bugs are also increasing in some areas.—J. N. Roney.

Witchweed Spread Is Feared by Authorities

DILLON, S. C. — Witchweed, discovered last year in this area, is apparently spreading. H. E. Livingston, county agent, said he has already found four new fields of corn affected by the pest this year, and "I feel there are many more that either have not been reported or have not been discovered."

Farms where the weed is found will be quarantined, agriculture authorities say. The tiny seeds may be easily scattered by wind. Farm authorities fear that the advent of a hurricane might scatter witchweed to North Carolina, Virginia, and other states.

Pests Hit Corn and Alfalfa Plantings

BROOKINGS, S. D. — European corn borer development has been rapid. Fifth instar borers are common. Many farmers will be surprised at the heavy infestations in some fields.

We have plenty of grasshoppers. There are several areas where corn is being invaded from alfalfa fields and fence rows. Some of this late second cutting alfalfa and also seed fields are loaded.

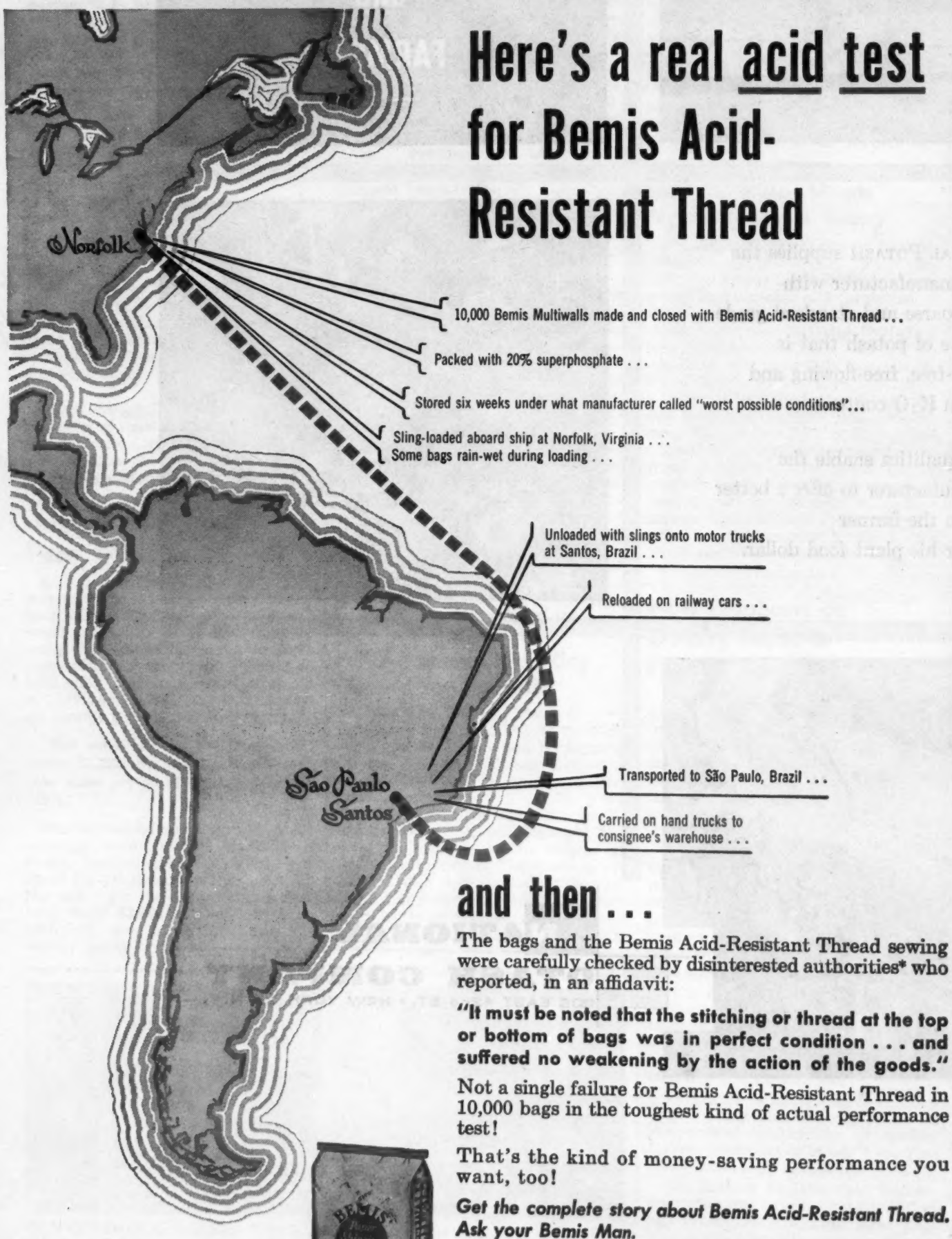
Some increase of spotted alfalfa aphid has been observed with counts up to two aphids per sweep with the net. These higher counts are in thin alfalfa stands. It appears as though the aphids prefer the poor alfalfa. Counts have been low in good thick stands.—John A. Lofgren.

Pests Damaging Cotton, Tobacco in South

RALEIGH, N. C.—(Via Western Union). Tobacco horn worms are doing light damage in flue cured areas of the state. The damage may increase to moderate or severe.

Tobacco flea beetles are doing severe damage in many areas. Some treatment reported as ineffective, but where we investigated it was found that poor coverage resulted in poor control.

Boll weevil infestations are heavy in many areas. It will be a real bat-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save our top crop cotton. Aphids, ht to moderate on cotton and to-cco. Screw worms have been found several of our northwestern coun-s. One animal reported dead due these pests.—H. E. Scott.

rn Borer and Armyworm ominent in Missouri

COLUMBIA, MO. — Emergence of st generation European Corn Borer ths is complete throughout the thern half of the state and pupa-n with some moth emergence is w occurring over the northern half the state. This means an ample pply of moths, however, egg laying mains light in all areas of the state. Chinch bugs continue to cause dam-e to corn and grain sorghums in ttered areas or individual fields r the western and northern parts the state.

The threat of fall armyworm mage to small corn subsided con-derably during the week in the utheastern part of the state, but mage continued in the south-estern part of the state.

Infestations of corn leaf aphids con-ue in the whorls of grain sorghums r much of the state. Actually, in e central part of the state, their mbers have been gradually de-easing for the past two weeks.—rling Kyd and Geo. W. Thomas.

hapra Beetle Still in alifornia Warehouses

SACRAMENTO — Robert W. Har-r, chief of the California Bureau Entomology, reports that Khapra etles still are present in California ain warehouses.

Mr. Harper said his bureau had in-ected and treated grain occupying 000,000 cubic feet; that the inspec-ns were still going on and that ad-tional infestations likely would be rned up.

rasshoppers Big roblem in Kansas

MANHATTAN, KANS.—Grasshop-rs continue to be a severe problem local areas throughout the central rt of the state. Grasshopper num-rs varied from 8-40 per square yard field margin at stops in western nsas. Protection of the next cut-ng of alfalfa is needed in many eas and severe damage can be ex-cted in corn fields.

Lygus bugs have been found with ounts as high as 12 per sweep of he insect nets. Blister beetles are estroying blossoms in many areas nd grasshoppers and webworm ontinue to be a problem. Toxa-hene applied in the evening has iven the least damage to pollenat-g insects.

Spotted alfalfa aphids are increas-g in numbers with the hot dry eather. There have been no reports damaged plants.—Dave Matthew d Dell E. Gates.

eevils and Bollworms fest Mississippi

STARKVILLE, MISS.—(Via West-n Union). Boll weevils moving from d cotton to younger cotton here, d the infestation is increasing to maging numbers. Bollworm is also creasing due to moth flight. Far-ers are using increased dosages and oser intervals of application.—A. G. nnett, extension entomologist.

WISS CHEMIST IN DELAWARE

NEWARK, DEL.—A Swiss soil emist will spend two years doing search on soil organic matter at e University of Delaware School of riculture. Dr. Peter P. Dubach is gaged in post-doctorate study in e general framework of the Andelot oject, an over-all project on the emistry of soil organic matter.

New Soil Studies Under Way in Oregon

CORVALLIS, ORE.—Soil samples from farms along Oregon's coast are being moved into greenhouses at Oregon State College in a new type of research aimed at speeding work on soil fertility problems in that area.

Oregon State College soil scientists are taking samples of 10 typical coastal soils from Coos Bay to Astoria. These will be placed in plastic pots in agricultural experiment station greenhouses, given a wide range of soil fertility treatments and then checked for possible plant food deficiencies.

Purpose of this type of research is to determine the general kinds and areas of soil deficiencies along the coast, said Moyle E. Harward, professor of soils at the college. This information will make it possible to design simpler field experiments aimed at particular soil fertility problems, speeding the time actual recommendations can be made to local farmers and lowering cost of this kind of research.

Working on the project are Mr. Harward; T. L. Jackson, extension soil conservation specialist; and Everett Jenne, graduate student in the soils department.

In their greenhouse experiment, the soils men will divide each soil type into 100 pots of 5 lb. each. These will be given various lime and fertilizer treatments and planted with New Zealand white clover, a legume widely grown along the coast.

The scientists will then be able to check for possible lime, phosphorus, potassium, sulfur, boron and molybdenum needs in the samples, and will also be able to explore results of varying calcium-magnesium ratios in the lime used.

This new approach to soil fertility problems holds promise of expanding research on soils in other parts of the state and will probably be used more widely in the future, Mr. Harward said.

New Jersey Farmers Find Good Pastures Profitable

NEW BRUNSWICK, N. J.—New Jersey farmers know that high quality pasture is their least expensive source of TDN for feeding livestock.

Properly managed orchardgrass-ladino clover pastures make the most desirable and productive ones, according to Dr. John Gerwig, extension crops specialist at the College of Agriculture, Rutgers University. This combination is best for grazing, with alfalfa and brome preferred for hay.

"Good stands of forage are not accidental," says Dr. Gerwig. It takes a properly prepared seedbed, plenty of lime and fertilizer, and rotational grazing to maintain yield and keep the desirable species present.

"The more successful farmers lime to a pH of 6.0-6.5 and every year apply 500 to 800 lb. 0-10-20 an acre."

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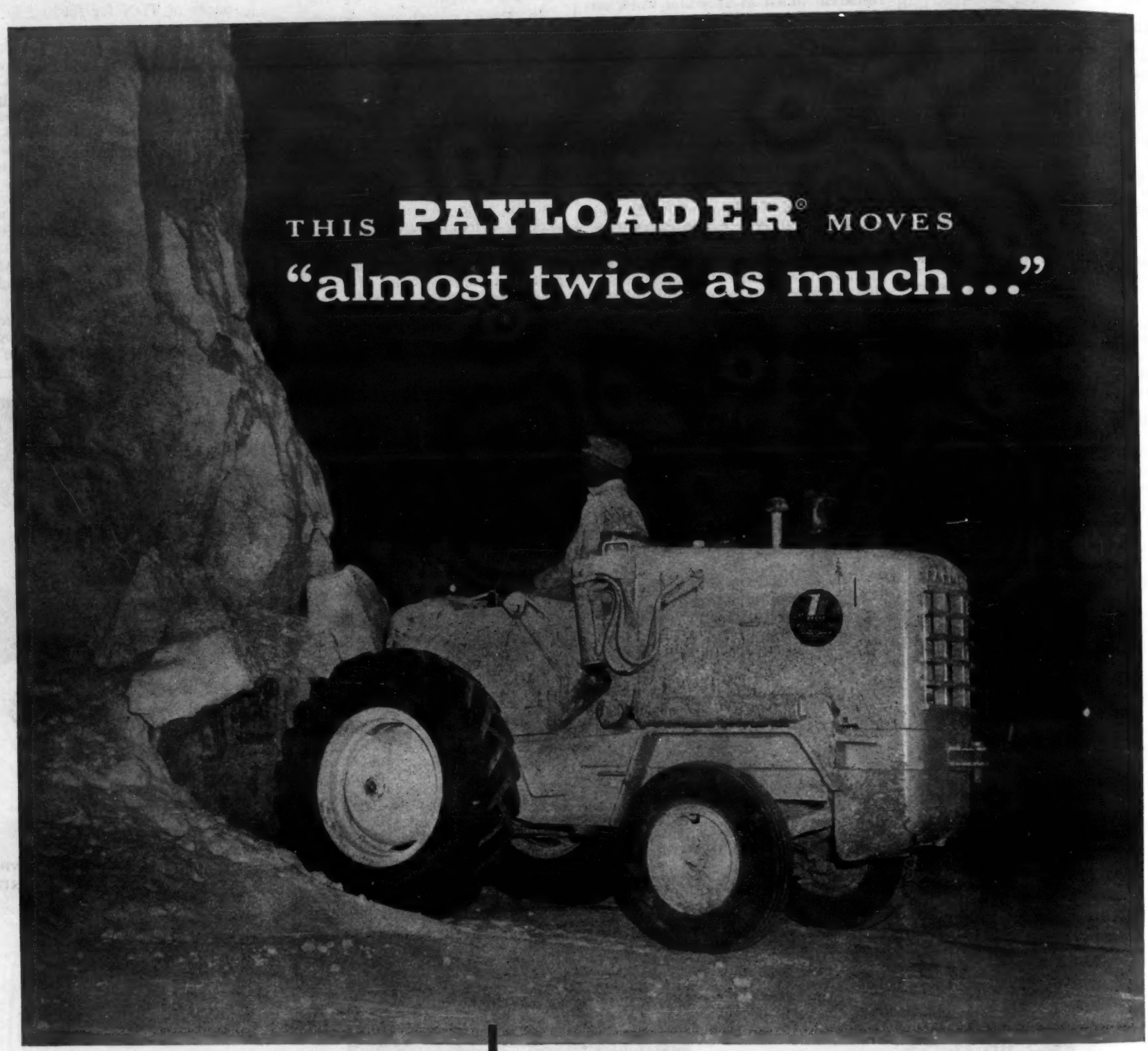

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Dr. James A. Naftel

James R. Turner

ew Department Formed y U. S. Potash Co.

NEW YORK — Establishment of a lant Food Development department as been announced by United States otash Company, Division of United tates Borax & Chemical Corp. Diector of the new department is Dr. ames A. Naftel, formerly manager f the plant food department of the acific Coast Borax Co. before its erger with USP. James R. Turner, ormerly southern agronomist for Paific Coast Borax Co., will be chief gronomist for the new USP departent, according to Dean R. Gidney, ice president and general manager f U.S. Potash.

Mr. Gidney explains that the new epartment was created "in keeping ith the importance of boron use . . . o fulfill the need for a specialized ection to handle plant food develop-ent problems relating particularly o borates." Sales of fertilizer borates ill be handled by the USP sales deartment, Mr. Gidney said.

For the immediate future, Mr. Gidey says, the plant food development ffice will remain at its present locaion at Auburn, Ala. An addition, an ffice will be maintained at the divi-ion headquarters in New York City, here Dr. Naftel will spend part ime. Shipping orders, however, hould be sent to U.S. Potash Divi-ion, 50 Rockefeller Plaza, New York 0, N. Y., it was noted.

COMMISSION VOTED DOWN

PORTLAND, ORE.—A proposal to stablish a commission for Oregon ighland bentgrass growers was reently defeated by eight votes, acording to Robert J. Steward, Oreon Department of Agriculture diector. It takes a two third majority votes to obtain such a commission. f 129 registered growers who parcipated in the balloting, 78 or 60.5% oted in favor of the commission and or 39.5% voted against it.

Kansas Editor Wins Communications Award

FT. COLLINS, COL. — Lowell Brandner, agricultural editor, Kansas State College at Manhattan, was named the winner of the American Association of Agricultural College Editors-National Plant Food Institute "Agricultural Communications Award" at a special dinner ceremony at Colorado State University.

Announcement of the award was made by Samuel H. Reck, editor, Extension Service, College of Agriculture, Rutgers University, New Brunswick, N J., president of AAACE, which held its 41st annual convention at Colorado State University. The award was accepted, on behalf of Mr. Brandner, by Lisle Longsdorf, extension editor, Kansas State College.

Louis H. Wilson, secretary and director of information for the Institute, presented to Mr. Longsdorf, on behalf of Mr. Brandner, a scroll signed by the national judges, together with a check for $500 to be used for advanced professional training in agricultural communications.

The annual award was given Mr. Brandner "in recognition of the most notable growth in competence and achievement in agricultural communications during the year 1956," in competition with other members of AAACE at land-grant colleges in the United States.

FLY-FREE CITY SEEN

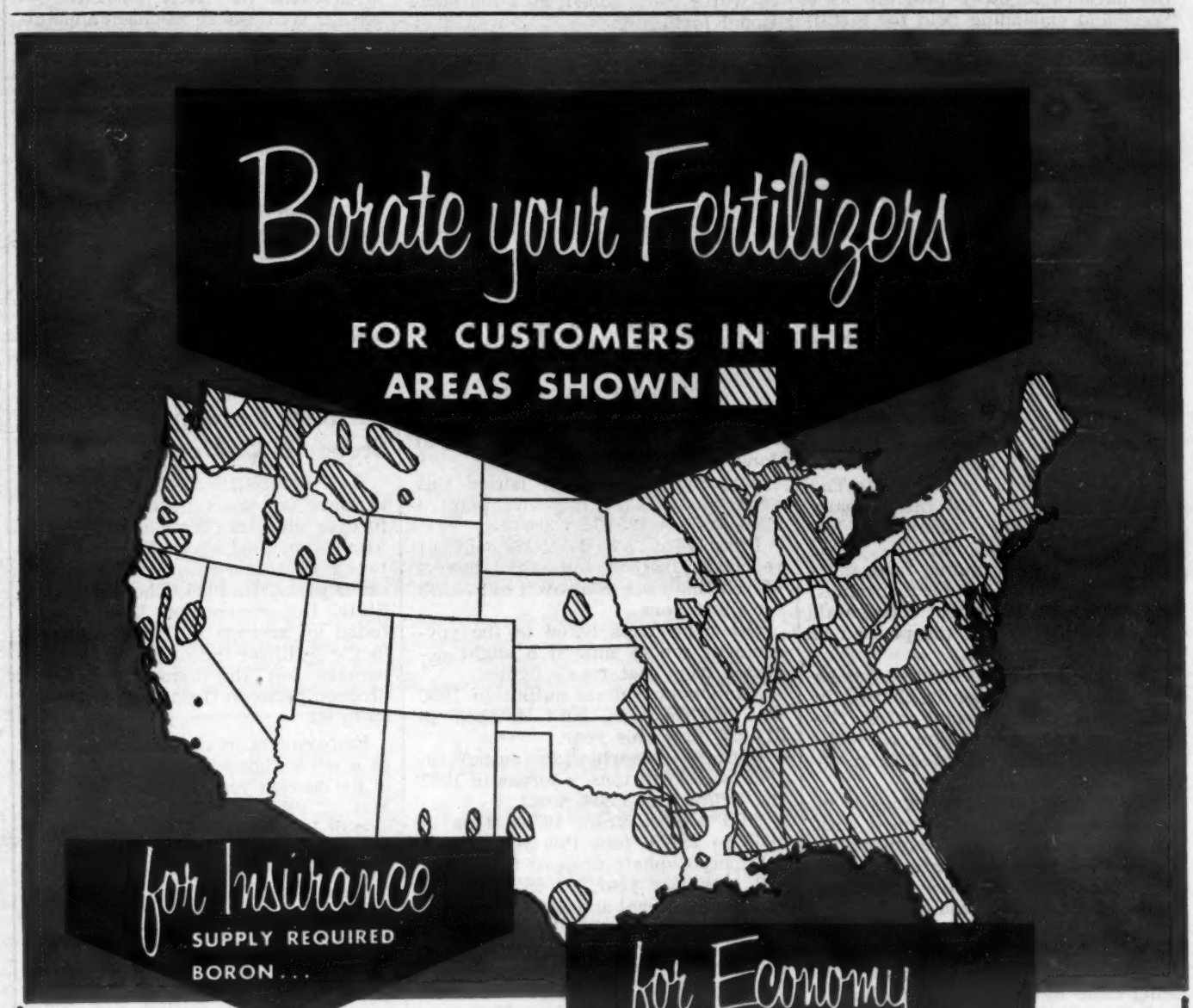
CHARLOTTE, N. C. — The day when Charlotte will be without flies and mosquitoes is rapidly approaching, a health official said here. Dr. M. B. Bethel, city-county health officer, said the fly is practically extinct in the midtown business area, as a result of a ten-year battle with modern chemicals and spray machines. "If I said there are no flies downtown, somebody would be sure to come up with a denial; but my men, who know and are in touch with the situation, say a fly is hard to find in that area where once this was one of our big problems," Dr. Bethel said.

Strong-Scott Adds Western Service Center

MINNEAPOLIS, MINN. — Strong-Scott Mfg. Co. has announced the addition of Empire Equipment Corp. of Pasadena, Cal., as a sales and service center for the firm. Lucian S. Strong, president of Strong-Scott, termed this move as "another step in the continuing program of nationwide expansion."

Strong-Scott makes industrial and grain processing equipment, and has specialized in this line for some 60 years.

Empire Equipment Corp. has been operating for seven years with James H. Dean as owner. The firm engages in sales and service of equipment for the processing industries. All of California and Arizona and most of Nevada are serviced by Empire for Strong-Scott in the chemical, food and allied processing equipment field. Euclid Martin is sales representative for Empire Equipment Corp.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50 ROCKEFELLER PLAZA, NEW YORK 20, NEW YORK

NEW YORK MEETING

(Continued from page 1)

stitute "is now working on a fertilizer salesman's manual" which will feature "economic and reference information." He said this is expected to be ready for distribution by February.

He listed three major types of research projects the institute is sponsoring at various colleges in which scientists are seeking to determine the most profitable rates of fertilization, determine areas where summer, fall, and winter fertilization are practical, and determine the water conservation value of fertilization.

Dr. Garman said the institute is concerned with getting more of the nation's best young brains to enter agricultural fields. The institute helps through scholarships, fellowships and special publications.

Dr. Palm, former head of the entomology department at Cornell, cited the nation's highway program as a "new and expanding field for fertilizer and herbicides and other pesticides."

It is estimated that the current 41,000 miles of new highways over the next 13 years may require up to 400,000 tons of fertilizer to build the roads and 125,000 tons annually to maintain them.

Dr. Palm quoted figures showing that New York State spent $92,000 for fertilizers on state highways in 1956 and that the estimated expenditure for 1957 is $100,000. Between $20,000 and $30,000 will be spent on herbicides in 1957.

Reviewing the findings of national surveys, based on recent published information, Dr. Palm cited problems facing the fertilizer industry.

He said the industry needs to realize that "fertilization is only one part of total crop production. The market is going to go to the company that sells service with competent agriculturists," he declared.

He noted that declining farm prices until late 1955, low farm incomes, and decreasing farm land acreage all have been blamed for the plateau in fertilizer consumption.

Dr. Palm said the economy of using high analysis fertilizer is obvious in light of increasing freight rates. The trend toward granulation of high-analysis fertilizer, he noted, is growing.

The director cited "rising costs of materials and services, coupled with price pressures of sharp competition, and the need for more intensive farmer education" as other problems facing the fertilizer industry.

Dr. Brady, the agronomy department head, outlined research, particularly the work with nitrogen, now being done by Cornell scientists. He said Cornell agronomists have conducted 400 fertilizer tests in farmers' fields on grasses, small grains and corn.

He reported that, according to Cornell test results, it doesn't pay to apply nitrogen to the soils in the fall for spring-planted crops such as oats or corn. These results are contrary to those reported in some areas of the South and Midwest, Dr. Brady said, but have been consistent in tests run over a period of six years. In the Cornell tests, there was probably a loss of nitrogen by "volatilization and leaching" when nitrogen was applied to the soil in the fall, Dr. Brady said.

In field investigations, Dr. Brady reported that Cornell scientists found little difference in the various carriers of nitrogen in yield and nitrogen uptake by corn, marked nitrogen responses under different soil conditions and relatively small losses of anhydrous ammonia using different methods of application.

On the second day of the conference, the fertilizer and lime representatives visited three of the college's research areas.

At Cornell's Aurora Research Farm, the visitors heard Dr. Richard Bradfield, an agronomist, describe the college's long-term "maximum yield experiment."

One objective Dr. Bradfield said, is to "compare the yelds of crops in a six-year rotation under 'normal' practices with yields under an 'optimum' treatment."

"Normal practices" are those generally recommended to farmers. In "optimum treatment," an effort is made to produce a maximum yield in any way possible, particularly heavy fertilization, which would not always be economical for the average farmer.

Dr. Bradfield reported no increase in corn yields even when three times the normal amount of fertilizer was applied without irrigation. But, he added, corn yields shot up 40 bu. for three straight years when four inches of water were added with the additional fertilizer.

In another talk, William C. Kelly, Cornell vegetable crops specialist, called for better machinery for fertilizer placement, observing that many growers can't do the job with present equipment. Mr. Kelly also said inadequate use of lime is still a big problem on vegetable farms.

Mr. Kelly, along with Profs. E. C. Dunkle and Elwood Fisher, reported on Cornell's expanded soil test programs and the 1957 fertilizer recommendations.

COMMERCE REPORT

(Continued from page 1)

tons this year from 656,580 tons from January-March, 1956.

Urea output for that period this year was 123,214 tons, whereas in 1956, it was 105,113 tons.

Phosphoric acid (50% H_3PO_4) reached 1,069,843 tons in January-March this year, compared to 974,373 tons last year.

Other products listed in the government report showed a slight decrease from last year's figures.

Ammonium sulfate output in 1956 was 548,874 tons, but dropped to 511,225 tons this year.

Benzene hexachloride output in 1956 was 1,610 tons, whereas in 1957 the figure was 1,364 tons.

DDT slipped from 16,709 tons in 1956 to 15,856 tons this year.

Superphosphate dropped from 744,472 tons last year, to 655,015 tons this year; normal and enriched superphosphate from 459,076 to 408,845 tons; concentrated superphosphate from 228,172 to 200,910 tons; and other phosphatic fertilizers, including wet-base goods, from 57,224 to 55,260 tons.

"Insect Control Week" Proclaimed in Georgia

ATLANTA—Gov. Martin E. Griffin of Georgia has proclaimed Aug. 18 to 24 as "Insect Control Week," according to E. E. Heuermann, Atlanta district manager, Shell Chemical Corp., who heads up the week's program for the Georgia Entomological Society.

The Governor's proclamation is intended to help spot-light the losses caused by insects annually in Georgia and to promote measures which would reduce this loss. "With the population growing at the rate of 130,000 persons per day, a group of American experts in land conservation recently predicted that America might be feeling a pinch on its available food supply before 1970," Mr. Heuermann said. "If the challenge of population growth is to be met by the nation's farmers, it will be through mechanization and adoption of the latest scientific advances in mass food production. One of the more important of these advances is the practice of controlling insects."

Arthur W. Luedeke

MANAGER OF NEW DISTRICT—Arthur W. Luedeke has been appointed by Commercial Solvents Corp., New York, to be manager of the firm's new mid-Atlantic office with headquarters at 196-202 Blanchard St., Newark, N. J. Announcement of the new office and of the appointment was made by J. V. O'Leary, general sales manager. The new office will service CSC customers in the states of New Jersey, Eastern Pennsylvania, Maryland, Delaware, District of Columbia, Virginia and North Carolina. In addition to its line of chemicals for agriculture, CSC sells industrial chemicals and animal nutrition products.

Fertilizer Employment Steady in California

SAN FRANCISCO—The number of workers employed in the manufacture of chemical fertilizers in California remained about the same between the summer of 1955 and the same period in 1956. The California State Department of Employment found an average of 1,300 employed in the fertilizer industry during both periods, but the number of firms dropped between the two years from 85 to 80.

Employment in chemical industries as a whole, however, was up in May of the current year, as compared with May of 1956, according to the Division of Labor Statistics and Research of the Department of Industrial Relations. There were an estimated 38,800 wage and salary workers making all kinds of chemicals this May, compared with 37,700 in May a year ago.

The production worker segment of this category earned an average of $95.72 each week during May compared with $91.97 12 months earlier. The average hourly earnings were up from $2.24 to $2.34, while the length of the work week dropped slightly from 41.1 hours to 40.9 during the same period.

(See Potash Story Page 1)

Table 1

POTASH DELIVERIES

June, 1956, Through May, 1957

Short Tons K_2O

	June, 1956-May, 1957	June, 1955-May, 1956
Agricultural—U.S.		
Muriate	1,758,914	1,732,081
Manure salt	3,095	1,238
Sulphate and Sul. Pot. Mag.	125,878	112,624
Total	1,887,887	1,845,943
(Imports)*	(158,723)	(168,407)
Canada	89,600	90,402
(European Imports)	(37,505)	(37,640)
Cuba	16,519	15,799
(Imports)	(4,520)	(....)
Puerto Rico	20,296	19,998
(Imports)	(1,926)	(4,635)
Hawaii	21,084	21,316
Total institute territories	2,035,386	1,993,458
Other exports	236,532	103,523
Total agricultural	2,271,918	2,096,981
(Imports)	(202,674)	(210,682)
Non-agricultural, U.S.	118,666	123,482
Grand total	2,390,584	2,220,463
(Imports)*	(202,674)	(210,682)

*Import figures given in parentheses are included in all totals.

Suggestions Given for Pasture Brush Control

EAST LANSING, MICH.—Good management, fertilization and controlled grazing are important factors in weed control in pastures, according to Dr. B. H. Grigsby, Michigan State University botanist.

He suggests that treatments for weed control should include mowing, spraying, and brush treatments in pasture areas. Herbaceous weeds can be kept from spreading by mowing at the right time of the year, he says, but mowing will probably not control spotted knapweed, Canada thistle, hoary alyssum and orange hawkweed.

Applications of 2,4-D are effective on most annual weeds and will control many biennial species, he says. The spray should be applied when weeds are young and growing actively. "Some injury to legume plants may follow spraying, but established clover and alfalfa is seldom destroyed by properly timed sprays. Early spring, while legumes are still dormant, or late fall after first killing frost, are the best times to apply 2,4-D for the control of pasture weeds," he says.

When it comes to control of woody vegetation, it can be killed by three methods. These are foilage sprays, cut-stump treatments, and basal bark sprays.

Foliage sprays are applied during the growing season, generally when brush is in a full leaf, actively growing stage. The two latter methods may be applied at any season of the year.

For the cut-stump treatment, cutting the stump close to the ground gives better results and requires less material. The cut surface and all the bark to the ground line must be wet (to the point of run-off) if effective results are to be expected. Dr. Grigsby suggests the use of 1.0 lb. 2,4-D or 2,4,5-T esters to 10 gal. diesel oil, kerosene or stove oil for the tree species easiest to kill; 2.0 lb. 2,4-D or 2,4,5-T to 10 gal. for trees moderately easy to kill, and 3.5 lb. 2,4-D or 2,4,5-T to 10 gal. for the hard-to-kill species.

He says one should never cut brush without treating the stump if the elimination of the brush is desired. Cut-stump treatments have been most reliable of all treatments to date.

"The instructions given above for cut-stump treatments apply in general for standing trees on which the basal trunk treatments are applied. It is very important that the lower 10 inches of the trunk be completely wet to the ground line. Use only oil as a carrier. In general, the smaller trees—1 to 5 inches in diameter—give more positive kills than the larger trees. However, cottonwoods up to 13½ inches in diameter and elm up to 20 inches in diameter have been killed by basal treatment. Cutting through the bark with an axe aids penetration with large trees," he continues.

Cut-stump and basal treatments have been effective on some species which did not respond well, or not at all, to foliage treatments. Such species as green ash, elm, hickory and hawthorn must be given the strongest dosage of 2,4,5-T recommended if satisfactory results are to be obtained.

Some follow-up treatment is almost always necessary because of resprouting. Basal treatments are not generally effective on sprouts less than one year old.

AG ENGINEER APPOINTED

KNOXVILLE, TENN.—The appointment of Dr. Clarence W. Bockhop as head of the agricultural engineering department, University of Tennessee, has been announced. Dr. Bockhop was formerly associated with Iowa State College where he earned his doctorate.

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USDA Seeks to Cut Costs of New Pastures

WASHINGTON, D.C.—Agricultural engineers, crops specialists, and soil management researchers of the U.S. Department of Agriculture have begun a three-point study on how to reduce costs of pasture establishment.

This research project is being carried on by USDA's Agricultural Research Service, in cooperation with experiment stations in several states, and will cover factors such as costs of pasture land preparation, fertilizing, and seedling, and to learn why pasture seedings often fail.

Preliminary tests during the past 6 years—principally in the South—indicate that farmers may be able to establish hay and pasture crops for less than the currently estimated annual figure of $300 million for legume and grass seeds and fertilizer.

These experiments show that it is possible to establish good stands with less seed and fertilizer than has been commonly regarded as necessary with conventional seeding methods. Fertilizing at a lower rate, with proper placement, helped to hold back weeds, which are a major problem in pasture establisment.

This research is considered to be especially important to farmers participating in the conservation reserve of the soil bank program. Under the new law, farmers receive payments amounting to about 80% of the cost of establishinig a cover the first year and land rental payments each succeeding year their contracts are in effect, providing they agree not to graze the land or harvest a hay crop from it. However, should their first seeding attempt fail, they must stand the full cost of establishing the pasture crops in subsequent years. It now takes, on the average, two years to establish a seeding.

Additional research on pasture establishment is necessary, not only in the South, but also in other areas of the country, USDA scientists say. They have found a number of factors influence the success of pasture seedings, including the preparation and firmness of the seedbed, depth of seed planting, precision placement of seed and fertilizer, firmness of the soil around the seed, the final condition and form of the surface soil, and row spacing of drilled seed.

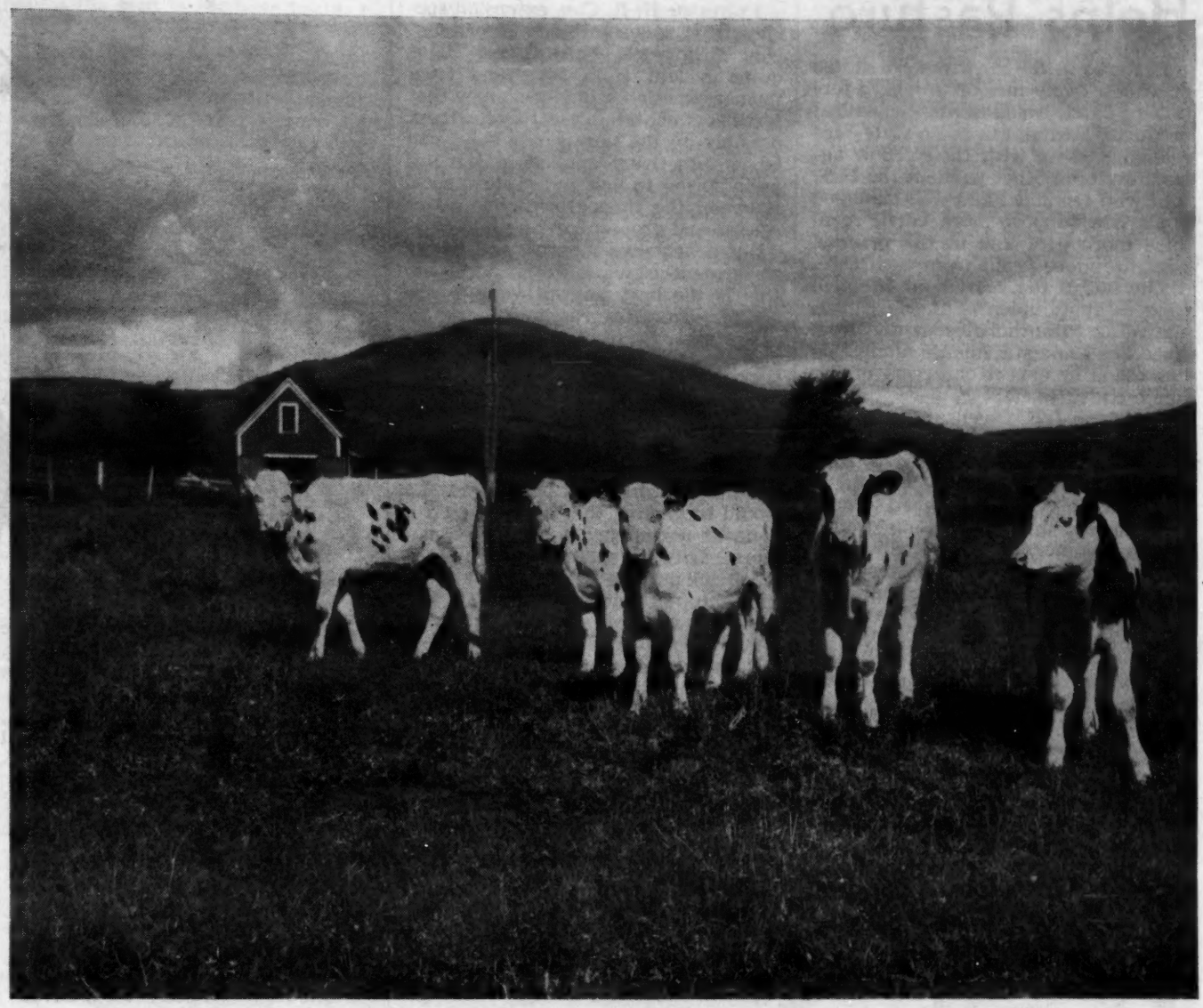
Special equipment was designed and constructed at the Agricultural Research Center, Beltsville, Md., to meet the planting and fertilizing requirements of the various experiments. Two combination drill-fertilizer machines were used in tests at Clemson, S.C., Auburn, Ala., and Tifton, Ga., in 1951 and 1952.

Four other improved models of these machines have been developed and put into operation in the field. These machines have been altered in most cases to meet local conditions.

In the Midwest, studies are underway at East Lansing, Mich., comparing stands of winter grains with and without legumes, and researchers in Wisconsin, Illinois and Iowa are testing inter-seeding of row crops, mainly corn.

On the eastern seaboard, in the Pacific Northwest, and in the Southeast work is under way to determine precision planting and fertilizing methods that will net the best stands. Work is just getting started in the Southwest where heat and wind necessitate mulch planting of grasses and legumes.

A number of other states have indicated their interest in conducting similar experiments.



NEW HAMPSHIRE SCENE—Young Holstein stock in the herd of A. J. Marshall & Sons, Northumberland, N.H. are well-kept on pastures improved by their owner's continual efforts to maintain pastures and to build up fertility for greater profits. Mr. Marshall has shown great interest in this enterprise, being one of the winners in a New Hampshire Green Pasture contest. (Photo by the U.S. Department of Agriculture.)

New York Finds Field Bromegrass Useful

GENEVA, N. Y.—A promising cover crop for cherry and peach orchards has been found in field bromegrass, comparatively new to this state. It is also said to be promising for control of erosion following row crops.

Seeded early in August at the rate of eight to ten pounds an acre, it will make sufficient growth before winter to provide a good cover, say fruit specialists at the Cornell experiment station, a unit of the State University, who have conducted trials with the grass for several years.

PEACH FERTILIZATION

SPARTANBURG, S. C.—Of all the factors affecting peach quality, color and shipping quality, the most important is fertilization, Ray J. Ferree, South Carolina extension horticulturist, has told growers in this area. The most important factor to consider in fertilization is the amount of nitrogen to apply in relation to the type of pruning, the time of application and the balance between nitrogen and other nutrients, particularly potash, Mr. Ferree said.

Maine Agronomist Declares that Grass Yields May be Tripled With Nitrogen Use

By CECIL BROWN

Maine Agricultural Experiment Station, Orono, Maine

An appreciation of the real value of timothy and other grasses in hay and pasture production has come to most of us only in recent years. We now recognize that both high yield and high quality can be obtained from well-fertilized, early-cut grasses. In the past, it was thought that these desirable goals could be obtained only during the years that legumes such as red clover or Ladino persisted in the stand.

Two modern developments have contributed to our new look at the grasses: first, a plentiful supply of nitrogen fertilizer, relatively cheaper in price than ever before; and second, widespread adoption of grass silage and barn drying of hay, which permits an earlier cutting of the hay crop than was practicable for field-cured hay. Recent research has opened our eyes to the great yield potential of grasses when they are adequately supplied with nitrogen. Research has also shown that while late-cut grasses may be quite inferior to late-cut legumes in feeding value, early-cut grasses are equal to early-cut legumes in the major aspect of quality—digestible energy content.

All of this is not to say that we should forget the importance of legumes. The legume component of a hay or pasture mixture is superior to the grass fraction because of its lower need for fertilizer nitrogen and its higher calcium and protein content. Our increased appreciation of grasses does not in any way suggest the omission of legumes from our seeding mixtures. It simply points out the importance of better utilizing the grass that remains after the legume has died out of the forage stand.

In 1954 we began a field experiment at the agronomy research farm near Orono, on the efficient usage of nitrogen on forage grasses. Pure stands of timothy, bromegrass, and orchardgrass were established, as were check plots of Ladino clover with each of the three grasses. Beginning in 1955, we applied ammonium nitrate (33.5% nitrogen) at different rates and times to the pure grass plots. The experiment was conducted at a uniformly high level of lime, phosphorus, and potassium.

Yields were determined for three cuttings annually in 1955 and 1956. Cutting management simulated an early hay or silage cut in mid-June, followed by two aftermath grazings. Samples of all harvested forage were analyzed for nitrogen content. In this way we could determine the effect of treatment upon nitrogen recovery and protein content.

To date, the experiment has been conducted under conditions of moderate drouth. In both 1955 and 1956 total precipitation for the growing season was approximately 75% of

(Continued on page 16)

Fall Fertilizer Use Profitable in East

Off-Season Application Helps Pasture

Pastures in the northeastern states provide a lively market for both fertilizers and weed-killing chemical products. Farmers in these states are realizing, along with their fellow agriculturists in other parts of the U.S., that well fertilized and well-managed lands can support more cattle, produce more beef and in the process, generate more profit from each acre.

The fall of the year is an effective time to apply much of the fertilizer, according to authorities in the area. Here are some statements along this line made by expert observers of the soil fertility scene:

Professor J. S. Owens, professor of agronomy at the University of Connecticut, Storrs, Conn., declares that new lessons in soil fertility are taught each season. "Grasses seemed almost to disappear during the long drouth of last summer," he says. "However, nitrates accumulated and recovery was phenomenal after the mid-September rains. Rapid growth might also have been assumed during the exceptionally warm March and April this spring, but that did not occur except where nitrogen carrying fertilizers or manure had been applied last fall or early in the spring."

Differences between unfertilized meadows and pastures now seem greater than ever before. No hired man can conceal his haste or carelessness in spreading for the skips are visible even from a distant hill.

"With such outstanding improvement from fertilization, why are so many good hay fields not fertilized? Some of the important reasons are that there is little time in early spring, some fields or parts of fields are too wet, or the fertilizer is not available. Fall applications will avoid these handicaps."

Professor H. R. Cox, extension specialist in soils, Rutgers University, New Brunswick, N. J., says: "It is quite evident from tests and from farmer experience in New Jersey that fertilizers containing nitrogen, except possibly on the very sandy soils, can be as effectively applied in the fall as in spring to hay and pasture sods. Between the time growth has about ceased and ground freezing is a period of nearly two months, and so far as farmers' convenience is concerned, this is the best time of year to apply fertilizers to grassland."

Professor Ralph S. Shaw, extension agronomist, Rhode Island State College, Kingston, says: "Many experiment stations have shown that fall top-dressing of grasslands is fully as effective in increasing yields as early spring applications. There are other distinct advantages. One advantage would be getting the top-dressing job done at a time when the labor can more easily be spared. It eliminates a job during the rush period. Many spring top-dressings are delayed because of wet, soft ground. This condition does not generally exist in the fall and the risk of delaying the job too long is eliminated."

Dr. A. R. Midgely, agronomist, Vermont Agricultural Experiment Station, Burlington, says: "Complete fertilizer, high in nitrogen, can be applied during the fall with good results provided it is not used after the ground freezes or active growth ceases. Frozen ground is impervious to water and some materials may wash off before they soak into the ground. Furthermore, the absorbing capacity of plant roots and soil organisms are reduced after this time and some leaching may occur on shallow soils. However, fall applied fertilizer of a 1-1-1 ratio, supplying 40 to 45 lb. nitrogen (N), phosphoric acid (P_2O_5), and potash (K_2O) an acre each fall will help maintain good quality grass-hay more or less indefinitely."

Dr. Joseph A. Chucka, Maine Agricultural Experiment Station, Orono, says: "Spring fertilization of pastures and hayfields, under Maine conditions, was found, by comparison, to be about as effective as fall applications, in so far as yields were concerned. Fall fertilization, however, has several advantages over spring fertilization in practice, among which are, somewhat earlier spring grazing, and fertilizer spreaders and tractors may be used in the fall on fields and pastures which are too wet to permit the use of machinery in early spring."

Professor Ford S. Prince, agronomist, University of New Hampshire, Durham, says: "Results of fall top-dressing in New Hampshire compare very favorably with fertilizers applied in the spring. The old theory that fertilizers would leach away if applied in the autumn is pretty well exploded. Getting the top-dressing done in the fall is much easier than trying to apply fertilizer on soft ground in our short spring season when there is always a rush of other necessary work."

Professor Ralph W. Donaldson, extension agronomist, Massachusetts State College, Amherst, says: "Fall top-dressing assures — conditions favorable for application, no shortage of fertilizers, and best response in growth if dry springs follow. It permits deeper penetration of plant foods and full use of moisture. Fall treatment insures best against effects of spring drouths when a shortage of hay and pasture becomes acute."

The amounts and grades of fertilizers to apply on forage crops in southern New England has been outlined in a bulletin issued by the Universities of Connecticut, Massachusetts and Rhode Island in cooperation with the National Plant Food Institute. The bulletin emphasizes the importance of a soil testing program as being "the first step toward a sound soil management program." It adds, "Proper use of soil tests eliminate much of the guess work in liming and fertilizing crops, particularly if complete records of past treatments are not available. . . Soil testing is good business."

For clover or trefoil mixtures, when seeded in the spring with companion crop, 600 lb. 5-10-10 or 400 lb. 8-16-16 should be applied at seeding time, and at least two applications per season subsequently of 400-500 lb. 0-10-20, or 300 lb. 0-15-30, or 8 tons manure. For soils medium or high in phosphate, add 150 lb. muriate of potash.

For spring and summer seeding without companion crop, 400-900 lb. 0-14-14, or 300-600 lb. 0-20-20, or 250-500 lb. 0-25-25 should be applied. Subsequent fertilization is the same as for spring seeding, the bulletin says.

For alfalfa mixtures, the same spring fertilizer applications as are recommended for clover are indicated, plus 30 lb. borax at seeding, or 5 lb. borax annually in mixed fertilizer. It is noted in addition, that extra phosphate may be needed as in the case of clover, particularly for spring seedings with a companion crop. "If grain drill is used in making companion crop seeding, the 30-lb. rate for borax is not safe due to danger of burning small grain," the bulletin says.

Permanent pastures, with volunteer native white clover, should have applications of 400-700 lb. 0-14-14, or 300-500 lb. 0-20-20, or 250-400 lb. 0-25-25.

Where the pasture is predominantly grass sod, the following applications are recommended: 400-500 lb. 8-8-8, or 300-400 lb. 10-10-10. This can be applied in the late fall or early spring.

In run-out legume hay and pasture, less than one-third legumes, fertilizers should be applied as follows: 400-600 lb. 8-8-8, or 300-500 lb. 10-10-10, or from 4-6 tons mixed poultry manure or 8-10 tons stable manure. These may be applied annually in late fall or early spring.

A Vermont extension agronomist, Win Way, at the University of Vermont, has given some good tips on pasture management that will maintain high yielding stands of commonly-grown pasture crops. He tells farmers in his state that some reasons for the need of a management system to reduce pasture yield losses are damage from overgrazing, trampling and droppings. "Inconvenient farm layout is often cited as an important reason. There are four basic types of pasture systems from which one may choose," he explains.

"During poor pasture weather, management is even more important," he states.

"Rotational grazing is by far the

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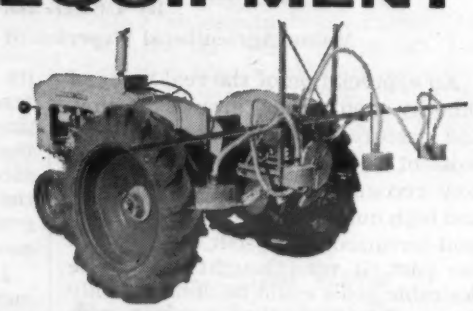

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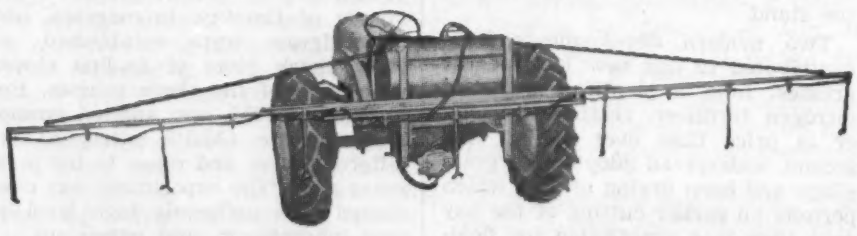

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implest and easiest system to set up nd maintain. Electric fences have ade the old drudgery of fence build- g obsolete. The main virtue of this stem is that legumes are given a hance to make regrowth between razings. If more plots than you need re set aside, the extra growth can be arvested as silage or hay. There is ome control on height of grazing by oving the animals when grass gets hort.

"Strip grazing describes the sys- em where fencing is moved each day o give a fresh strip in addition to he old. It means some extra labor ut takes less original fencing. Cows re still able to graze on the eaten- ver areas and in a big field, will get t new growth as it starts. This can e prevented with a follow-up fence nd then the system becomes rationed razing.

"Both systems force animals to lean up each piece before they move n but trampling is as bad as ever," e explains.

"Zero grazing offers the greatest pportunity for reducing forage loss. ome give estimates of 25% more eed produced on the same land by his system.

"Bloat hazards tend to be reduced ecause cows are compelled to eat tems. Hoof damage to plant crowns nd trampling loss is also eliminat- d," he points out.

Fertilizer recommendations for hay nd pasture in Maryland for 1957-58 ave been issued by the University f Maryland, College Park.

On new seedings, fertilizer should be plowed down with 400 lb. 0-20-20, or 575 lb. 0-14-14. Lime should be applied in accordance to soil tests made previous to fertilizer application. Fertilizer should contain from 60 to 80 lb. borax a ton. When drilling near seed, 200 lb. 8-16-8 should be applied.

For maintenance of pastures, it is suggested that the area should be top-dressed annually. Application of 400 lb. 0-20-20, or 575 lb. 0-14-14 is recommended. The university also recommends that lime requirements be checked every 3-4 years, and that the fertilizer applied contain 60-80 lb. borax a ton every other year, for alfalfa.

More nitrogen may be desired under certain conditions. Forty to 50 lb. nitrogen will increase the growth of the pasture for a short time following application. Early spring applications will increase the growth of the grass, but in most cases the clover will be crowded out. In midsummer following such an application, the growth is apt to be very poor because no clover is present to furnish nitrogen. Three or four applications of 40 lb. may be made throughout the grazing period and thus increase yields to twice the normal received from the pasture. However, liberal applications of nitrogen almost always cause the clover to be lost from the pasture. Once this has happened, it is necessary to continue the applications, or to be able to get by with lower production until the clover becomes reestablished.

Not only fertilization, but also the control of unwanted weeds is a necessary factor in good maintenance of pasture lands in Maryland, the university says.

Broom sedge, as well as many other undesirable grasses and weeds, occupy a large area of many Maryland pastures. Proper soil treatment, controlled grazing and good pasture management will largely eliminate these undesirable plants and improve the yield and quality of the pasture.

Broom sedge and weeds usually appear in areas of pasture where the soil fertility is low and where other soil conditions are less favorable for desirable grasses and legumes. However, broom sedge is not entirely restricted to land under these conditions. It may frequently be found on land that has received lime and fertilizer applications, but because of improper grazing practices, clipping or other unrecommended practices, the pest may become established and persist in pastures and hay fields.

The most practical method of eradicating broom sedge and other weeds from pastures is to crowd them out by providing more favorable soil conditions and by practicing pasture management that encourages vigorous growth of desirable legumes and grasses. Prevent reseeding by frequent clipping, especially by clipping before the seed heads have begun to form.

Often pastures infested with broom sedge are in need of lime. When lime is needed badly, the required amount should be applied about 6 months to 1 year before starting the fertilizer and manure treatment. A soil test will indicate the approximate amount of lime required. Once the lime need of the soil has been supplied, 2,000 lb. ground limestone, or its equivalent in other forms, applied once every three years will generally maintain the supply. It is advisable to have soil tests made every 3 or 4 years to determine the amount of lime actually needed.

For very thin and poor pasture one of the best initial fertility practices is the application of 6 to 10 tons stable manure per acre reinforced with 50 lb. superphosphate for each ton of manure. The manure from animals, along with the roughage not consumed, adds fertility and organic matter to the soil.

When manure is not available, top-dressing with 500 lb: 0-14-14, 0-20-20, or 4-12-12 to the acre should produce good results.

It is usually necessary to repeat the above treatment every two years in order to maintain the desired vigor and productivity.

Recommendations for fertilization of pastures in Pennsylvania have been presented by the agronomy extension and experiment station staffs of the Pennsylvania State University. As is true in other states, the Pennsylvania station urges soil testing and the application of lime in accordance with the soil's needs. The lime requirement should be checked every two years, the station adds.

The improvement of neglected permanent pasture land in Pennsylvania would include the broadcasting of 500 lb. 0-20-0 or equivalent to the acre, and the spreading of 8-10 tons manure an acre. Manuring may be done any time during the year when convenient, but fall and early winter applications will permit grazing the following spring. Repeat phosphating and manuring annually until pasture is productive, then follow instructions for the maintenance of improved pasture.

Fertilization on improved pasture lands begins with checking the lime requirement every five years, and liming as needed. When the crop is ladino or Birdsfoot Trefoil, broadcast late August or early September fertilizer at these rates: 400 lb. 0-15-30 or 0-20-20 or equivalent to the acre.

For bluegrass and white clover,

(Continued on page 14)

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What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

That fertilizer trials on dry range land in California "Exceed fondest hopes," was the message brought by Sidney H. Bierly, general manager of the California Fertilizer Assn. in an article describing pasture and range land development in that state. He told of highly successful results from added fertilization and presented data from a number of California experts on pasture and range use.

The output of pesticides and other organic chemicals totaled 570 million pounds, which was about 13% over the production figure for 1955, the U.S. Tariff Commission reported. DDT output was put at 138 million pounds.

Production of superphosphate in May, 1957, decreased from the May, 1956 output, according to the U.S. Bureau of the Census. Production for 1957 was 211,642 tons; for 1956, 223,590 tons.

The California Farm Bureau Federation decided that construction of a plant for the manufacture of anhydrous ammonia, owned and controlled by farmers and farmer organizations, "is financially feasible provided its capacity is not less than 150 tons of liquid fertilizer a day." A committee was to continue to study the situation with an eye to laying further plans for erecting such a plant.

That the full potential of fertilization of forest land can be achieved only through careful research was the essence of talks made at the recent meeting of the Pacific Northwest Plant Food Assn. at Portland, Ore. The height, diameter, and value of trees are enhanced by the application of fertilizers, it was indicated, and the time required for maturity is shortened significantly.

Production of urea got under way at the Vicksburg, Miss. plant of Spencer Chemical Co., the firm announced. Output of the plant will be some 10,000 tons a year.

Canadian sales of pest control chemicals increased 8% in 1956 as compared to 1955, the Dominion Bureau of Statistics reported. Sales in 1956 amounted to $24,685,259, the report said.

The annual meeting of the Pacific Branch of the Entomological Society of America attracted some 300 persons recently at Portland, Ore. Leslie M. Smith, University of California entomologist, was named president-elect; E. H. Littooy, Colloidal Products Corp., San Francisco, representative to the governing board, and H. H. Kiefer of the California State Department of Agriculture, Sacramento, was renamed secretary-treasurer.

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U.S. Steel Corp. officially opened its nitrogen plant near Provo, Utah. Industrial figures of the nation, the press and other guests were on hand for the occasion. Capacity of the plant is more than 70,000 tons a year of ammonia, nitric acid and ammonium nitrate.

A major infestation of grasshoppers caused damage of about $1,000,000 in northern California. Temperatures of well over the 100° mark aggravated the situation as the infestation progressed on two fronts. One area of 500,000 acres of rangeland and orchards in the counties of Butte, Glenn and Tehama was covered by the pests, as were nearly 7,000 acres in the Santa Maria Valley in Santa Barbara County.

General Chemical Division, Allied Chemical & Dye Corp., began operations of its Delta Works at Cleveland, Mississippi. The plant turns out cotton pesticides including various combinations of DDT, BHC, calcium arsenate, aldrin, dieldrin, endrin, ethyl and methyl parathion, malathion and toxaphene. Both dust and liquid products are produced.

The Carlsbad, N.M. mine of National Potash Co. was closed by a strike of members of the United Stone and Allied Products Works of America (AFL-CIO). The disagreement was over non-economic matters.

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The consumption of fertilizers for the 1955-56 fiscal year ending June 30, 1956 declined from the 1954-55 level in the U.S., the USDA reported. The annual consumption report stated that total consumption was 22,193,070 tons, which was 533,392 tons less than the similar period of previous year. Only one region of the U.S. showed a gain in use of mixed fertilizers. This was noted in the three Pacific states of California, Oregon and Washington.

There were several regions, however, in which gains were registered in the consumption of plant food materials, with the greatest gain in this category being registered in the East North Central region comprising Ohio, Indiana, Illinois, Michigan and Wisconsin. Use there was 139,414 tons greater than in the previous year.

Investigation into the causes for the April 16 explosion at Monsanto Chemical Company's Nitro, W. Va. plant which took the lives of eight workers and destroyed a methyl parathion production unit, revealed that an instrument failure started the chain of actions resulting in the explosion.

The Province of Saskatchewan, Canada, reported that outbreaks of grasshoppers and cutworms were threatening crops. Because of having kept on hand large quantities of pesticidal materials since a similar outbreak in 1951, Saskatchewan officials reported that sufficient amounts of insecticides were available to cope with the situation.

Send For

AMERICAN CHEMICAL PAINT CO. has prepared a large window poster for its dealers who handle weed killer materials. The poster, bright red in color, measures 23¼ x 28¾" and is suitable for a number of attention-compelling jobs in the dealer's place of business. Illustrations of six brush-killer products are included on the lower part of the poster, as an aid in identifying actual products displayed near by. Check item No. 1 on coupon.

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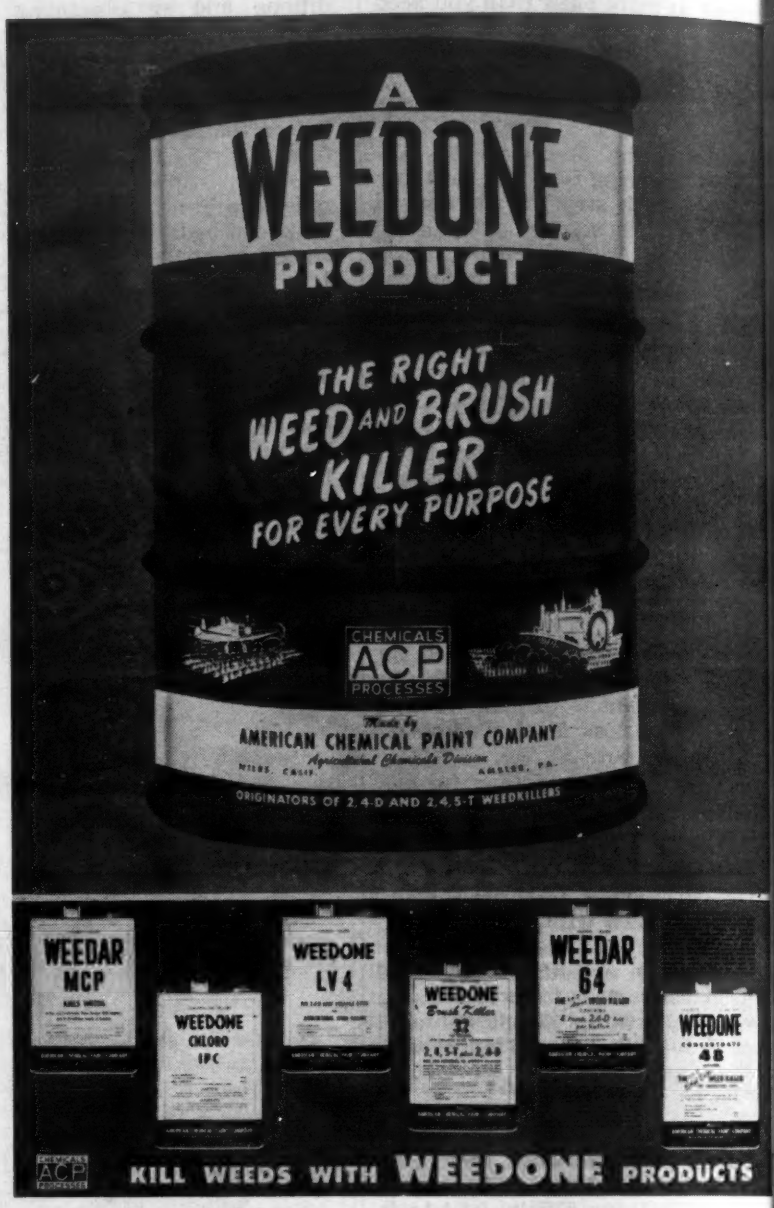

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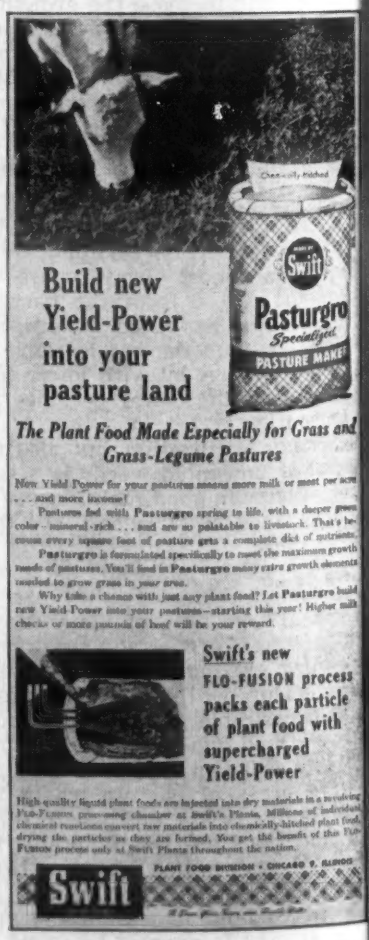

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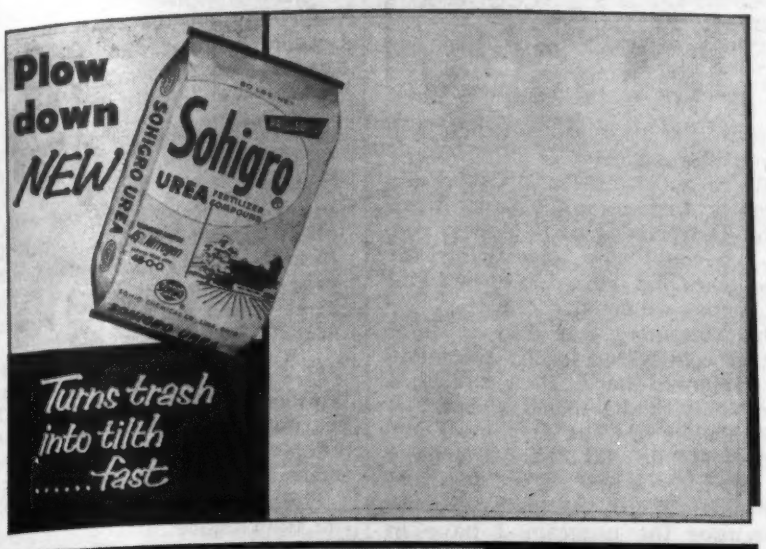

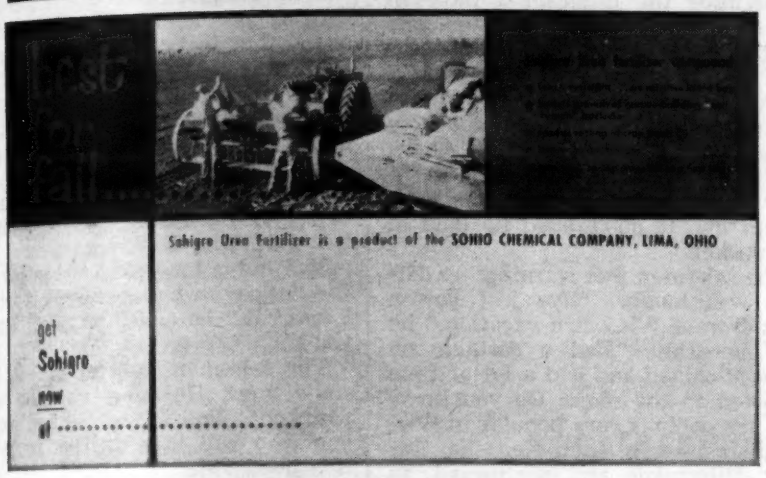

☆ ☆ ☆

PHILLIPS CHEMICAL CO. (Below) has prepared a large number of advertising mats for use by its dealers in their local newspapers. Shown here are only three of many which deal not only with pasture fertilization, but with many other crops as well. Check item No. 3 on coupon.

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BANK NITROGEN THIS FALL...
FOR CROP DIVIDENDS NEXT YEAR
Your Pastures and Small Grains Need NITROGEN!
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lend next year's nitrogen to the "soil rumen" bacteria this fall . . . and they'll perform microbe magic for you:
• They'll pay you back next spring with plenty of yield-boosting dividends on your nitrogen investment
• turn crop trash into humus in a hurry . . . improve soil tilth and water-holding capacity
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Sohigro
UREA FERTILIZER COMPOUND
SOHIGRO UREA
45% Nitrogen
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SOHIO CHEMICAL CO. has prepared an informative mailing piece for its dealers to send to their customers. At upper left is front of folder and the back side where the dealer may imprint his name. Above is the opened-out inside of the folder. Check item No. 5.

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MAKE PASTURES P
"I'm using more this fall than ever before"
"This pasture got ARCADIAN 12-12-12"
URAN makes the grass grow GREEN!
UREA 45 makes grass come alive!
NITRANA NITROGEN GROWS BEEF!
See Your Arcadian URAN Dealer Today!

NITROGEN DIVISION has prepared and makes available to its dealers the newspaper mats shown here, plus a number of others advertising use of nitrogen on other crops. Check item No. 4 on coupon.

Please send me the items checked:

AMERICAN CHEMICAL PAINT CO
☐ No. 1, Herbicide Poster

SWIFT & CO.
☐ No. 2, Pasture Fertilizer Ads

PHILLIPS CHEMICAL CO.
☐ No. 3, Newspaper Mats

NITROGEN DIVISION
☐ No. 4, Nitrogen Advertising Mats

SOHIO CHEMICAL CO.
☐ No. 5, Fall Fertilization Mailing Folder

☐ FERTILIZER DEALER
☐ PESTICIDE DEALER

Name of Firm

Address

City Zone State

Signature

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P. O. Box 67

Reader Service Dept. Minneapolis 1, Minn.

Doing Business With

Oscar & Pat

By AL P. NELSON
Croplife Special Writer

A tall, dark haired young fellow in his early thirties, and with a thin, brown briefcase entered the Schoenfeld & McGillicuddy Farm Supplies Store and approached the railed-in office area behind which rotund Oscar Schoenfeld sat absorbed in paper work.

"Mr. Schoenfeld?" asked the man, expectancy in his voice.

Oscar did not look up immediately. He continued his figuring until the silence was almost embarrassing, then slowly he swung around, eyed the stranger coldly. "Yes?"

The salesman was used to prospects hard to approach. He smiled warmly, as a pre-thaw measure, then gingerly opened the gate to the enclosure and came in. He sat down on the chair which was near, glanced curiously at the row of eight pencils on Oscar's desk, at the bulldog-shaped container which held retrieved paper clips, and the glass bowl which held salvaged rubber bands, and his glance even strayed with Oscar's to the sign on the wall, "Silence Is Golden."

"My name is Mike Emmons, and I'm from radio station KROZ at Wackmack," smiled the salesman. "I've got an idea for a daily radio program for your store which will fit you like a glove."

"We're not interested," Oscar said promptly, turning to his paper work again. "Advertising costs money, and, ach, we could stop advertising for three years and not catch up with all that money we spent."

This statement was only a slight dash of cold water to the salesman. He swallowed hard, then smiled a little sickly, and plunged ahead.

"I thought of your firm first, Mr. Schoenfeld," he said quickly, "when I got this idea. I told myself you and your partner are the logical people to sponsor the program I have in mind. You sell to farmers and this program would appeal to farmers."

"I don't care who it appeals to," Oscar said bluntly, trying to figure a discount. "Ach, I would not help pay a radio advertising bill even if President Eisenhower was on it. Everybody spends too much money—except me. It don't burn no hole in my pocket."

The salesman was warming up. His hide was tough. "I've just gotten back from a Wisconsin vacation," he said smoothly. "Had a cottage on Lake Michigan and had a lot of time to listen to the radio. Do you know that the polka is very popular in Wisconsin, especially from Kenosha, Racine, Milwaukee and northward to Green Bay? Tune in on any radio station in that area almost any time night or day and you'll hear polka music. The people like it. And I'm told farmers love it, too."

"Moosic!" snorted Oscar. "Some storekeepers are crazy enough to play it all day long in their stores. Stores are for business. Let the women keep the moosic at home."

"Well, if farmers listen to music in their barns and on radios tied to tractors," said the salesman, "it means that advertisers will get their message to those men. I've made a survey around this part of Iowa. There are lots of Germans, Scandinavians, Austrians, and Poles and other Slavs in our listening area. They would go for a half-hour long daily polka program. We play a polka now and then, but we've never had a daily program consisting only of polkas."

"Ach, there won't be one either if you expect us to pay for it," Oscar growled. "If this was my business alone, I would not spend a cent for five years—just to catch up on what that Irisher partner of mine spent this year and last."

"I must confess," admitted the salesman "that lying around the lake cottage in Wisconsin listening to that polka music all the time I sort of got to like it real well. They've got some great bands. Gee, when Frankie Yankovic plays 'Blue Skirt Waltz' or Louie Bischel plays 'Firehouse Polka' or when the Six Fat Dutchmen from New Ulm, Minn. play 'Goosetown Polka' you just want to get up and jump around a little."

"Ach, I've got a partner aroundt here that jumps, too," Oscar half sneered. "He jumps so much he don't come to work on time, and he always jumps around on promotions and forgets to jump into the country and make collections, that's what. I'm sick of it."

"On one of those radio stations," continued the salesman, "there is an announcer who calls himself Fritz, the Butcher, and he starts the program sayin' 'Hello everybody vot is listenin' in.' And he talks like that right through the program, including the commercials. Sponsors and audience apparently love it. I thought—"

The salesman looked speculatively at Oscar's hostile face. "I thought that if your firm bought this program I could make a tape recording of you talkin', talkin' in that interesting German inflection you have. It—it would add to the program."

"What's the matter with the way I talk?" Oscar said stiffening. "I don't mince words, ach, I tell them what's what."

"I mean, you have that interestin' pitch to your voice," replied the salesman. "But if you don't want to do it, we could use the straight pitch appeal. And if you would like to have me get a co-sponsor on the program, I'm sure I could do that. That would cut the cost considerably."

"I said no and I mean no!" Oscar thundered. "Why don't fellows like you go get a goot job like Tillie and me have, instead of just goin' around trying to make people bankrupt?"

This statement brought a flush to the man's face. "We are not bankrupting people, Mr. Schoenfeld. We are trying to open up new fields of business for business men to tap for extra sales. Fellows like us are always opening up new markets in many fields. If it weren't for us, the country would stagnate."

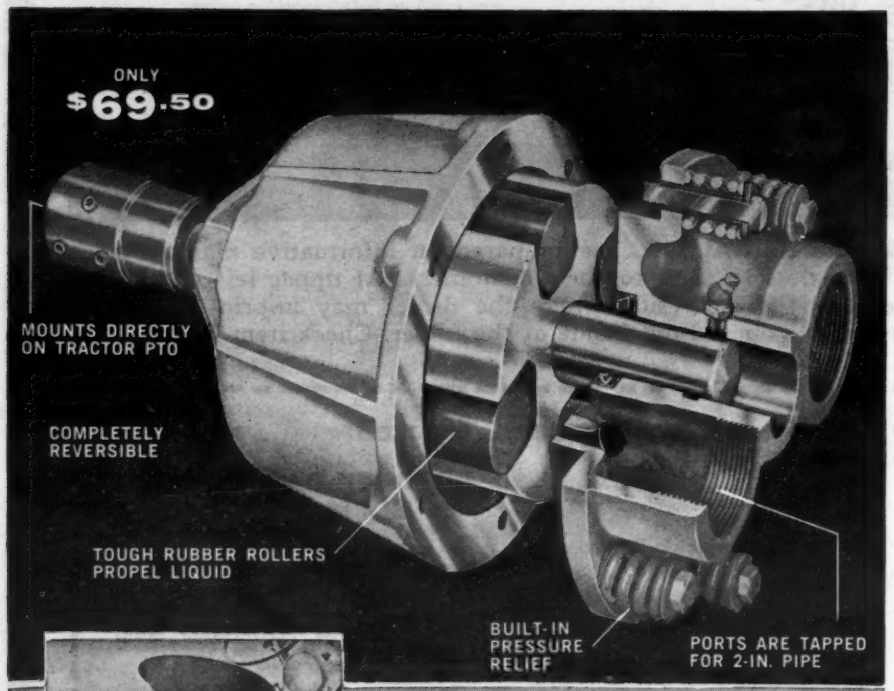
"Yah, you open pocketbooks and empty them," Oscar snapped savagely. "But you don't open mine. He pulled out a fat wallet and put it on the desk with a slap. "I got it when I want it," he added proudly. "Have you?"

The salesman rose to his feet, his smile gone. He knew when he was whipped. "Well, I'll bet I'll find someone who will take it. This program is a good idea."

"Oh, you'll find a sucker," Oscar agreed. "There's plenty of them every place."

Outdoors the salesman blinked his eyes and shook himself like a dog shedding water. "The old timers always told me there were guys like this, but I would never believe it. Now, I guess I've seen everything."

BIG NEW HYPRO PUMP for direct tractor drive



Roller-Pump Design is Field Tested

Positive displacement maintains high volume up to 50 lbs. pressure.

Includes automatic built-in pressure relief.

Pump is self-priming up to 10 feet. Maintains suction lift up to 22 feet after priming.

Resilient, synthetic rubber rollers handle water, liquid fertilizers and most chemicals.

Reversible — operates in either direction without alteration.

Designed especially for pumping water — useful for sprinkler irrigation — transferring liquid fertilizers — flood clean-up.

HANDLES MANY LIQUIDS OTHER PUMPS CAN'T

WRITE FOR FULL DETAILS

Hypro Engineering, Inc.
700 39th Avenue N.E., Minneapolis 21, Minn.
Manufacturers of Most Farm Sprayer Pumps

HYPRO PUMPS

W. A. Ackerman Named U.S. Borax Secretary

LOS ANGELES—W. A. Ackerman has been elected secretary of the United States Borax & Chemical Corp., it was announced recently by James M. Gerstley, president. Formerly assistant secretary of the corporation whose headquarters are in Los Angeles, Mr. Ackerman replaces R. F. Steel who was promoted recently to the newly-created post of assistant general manager.

Born in Elizabeth, N.J., Mr. Ackerman attended the University of Arizona and then graduated in 1942 from the Harvard Business School. After service in World War II, he joined the Pacific Coast Borax Co., working in the tax and insurance department. In 1951, after a brief term in the accounting department, he was named assistant controller in the insurance department.

Last July, when the Pacific Coast Borax Co. merged with the United States Potash Co. to form the United States Borax & Chemical Corp. Mr. Ackerman was made assistant secretary, the post he has held until now.

FALL FERTILIZATION

(Continued from page 11)

broadcast annually during late August or early September, 300 lb. 0-20-20 or equivalent an acre. If increased early production is desired, one should broadcast in early spring, 400 lb. 10-10-10 an acre or equivalent to the acre. Agronomists warn not to top-dress more than one-quarter acre per mature animal to be pastured.

Weed control is also an important factor in the maintenance of pastures in Pennsylvania. To control Canada thistle and bull thistle in the bud stage, one should apply ½ lb. 2,4-D amine in the early spring, or ¼ lb. 2,4-D ester.

merican Agricultural hemical Announces rsonnel Changes

EW YORK—The American Agri- ural Chemical Co. has announced following sales and production or- ization changes:

. H. Brown, formerly sales man- r at Alexandria, Va., has become s manager at Baltimore. C. I. thershead, formerly assistant sales nager at Baltimore, becomes re- nsible for sales as manager at xandria.

Everett B. Stalnaker, Jr., assistant nager of sales at Buffalo, N.Y., has n transferred to a similar post at ltimore.

N. E. Edwards, formerly sales man- r at Norfolk, Va. is now responsi- for sales as assistant manager of cialty fertilizer at the New York ice. H. D. Coulter, formerly assist- manager of sales at Greensboro, C., becomes sales manager at Nor- k.

D. A. Brogan, formerly salesman d sales supervisor for the specialty tilizer division at Carteret, N.J., s become sales supervisor for spec- ty fertilizer sales, New York.

E. W. Sale, formerly superintend- t at Detroit, has joined the chemi- l department at Detroit. J. A. Lay- n, formerly of the New York pro- ction department, becomes respon- ble for production as superintendent the Detroit works.

H. C. MacKinnon, formerly super- tendent of production at the Sagi- w, Mich. works, becomes responsi- e for production as assistant super- tendent at Carteret, N.J. R. L. theridge, formerly assistant superin- ndent at the Cleveland works, has come responsible for production as perintendent at the Saginaw plant.

ertilizer Purchases for orea Announced by ICA

WASHINGTON, D.C.—Internation- cooperation administration has is- ued a procurement authorization on world wide basis for fertilizer mat- rials for Korea amounting to ap- roximately $1.6 million.

Bids on this procurement may be ade on cash sales basis, but top riority will be given on bids sub- itted on a barter basis for Korean ommodities even if the cash offer the equivalent of a barter trans- ction, ICA says.

Following are the fertilizer mat- erials which are wanted by Korea nder ICA procurement author- zation numbered PA-89-230-99-G2- 7024, dated July 15, 1958. Contract- ing period is from Aug. 8 through Sept. 30, 1957 and the delivery date is set at Nov. 30, 1957—ni- trogenous fertilizer in form of am- monium nitrate 33/34% N; urea- 44 46.5% N; and ammonium sul- fate 20/21% N.

An alternative is offered to bid- ers for this business as follows: hosphate fertilizer in form of triple uper-phosphate 44/48% P_2O_5—super- hosphate 18/22% P_2O_5—and am- moniated superphosphate 6-16-0 to 1-53-0.

ICA however also makes available or barter deals this transaction on he following terms:

"Barter provision: any offer to upply commodities hereunder, in- olving a sale price of $100,000 or more, made on a bid basis pursuant o an ivitation for formal bids, and which express a willingness to accept surplus agricultural commodities rom the commodity credit corpora- ion is full payment in lieu of dol- ars shall have preference over any other bid/offer where price and other erms of the bid/offer are equal. Bid- iers having such agreement must state that fact in their bids, and ap- plications for letters of credit must provide that payments for such bid- ier's accounts will be made directly o the Commodity Credit Corpor- ation."

Gloomicides

Figuring the best approach is the honest approach, a girl we know forwarded the following entry to a TV show during its recent mink give-away contest: "I like Heaven-Scent Soap because I like mink."

◆ ◆ ◆

The two fighters did nothing but circle each other, not a punch was thrown and the fans weren't pleased.

A bored silence settled on the arena. Then a spectator yelled, "Hit 'im now while you got the wind with yer!"

◆ ◆ ◆

A Sunday school teacher had been giving her class a talk on behavior and what had to be done in order to go to heaven. When she finished, she said to one of the boys: "Horace, what must we do before we can expect forgiveness of sin?"

Horace squirmed, scratched his head, and finally replied, "We gotta sin."

◆ ◆ ◆

The bride of a struggling young writer was the big success of the evening, and all the men at the party elbowed each other to dance with her.

"She's charming, old boy," the host said enthusiastically to the husband, "and her dress is a poem."

"Not one poem," answered the young writer, gloomily, "sixteen poems, five short stories and nine articles."

◆ ◆ ◆

A vacationing suburban gentleman, we're told, was asked by his wife to drop in on a neighbor the other morning and give her an armful of chrysanthemums from the garden. Obeying, he found the neighbor's front door open, stepped inside, and asked if anybody was at home. "Yes, we are, and we're very busy," said a lady's voice from upstairs. "What are you doing here at this time of day? Sit down and keep quiet." The man obeyed once more, and when the lady and her small daughter appeared about five minutes later, the lady was tongue-tied, but not the daughter, who said, "She thought you were Daddy."

◆ ◆ ◆

The visitors to the U.S. from Europe shook their heads with wonder as they rode past the old people's home. There a long row of rocking chairs oscillated briskly under the urging of their ancient occupants.

"Look!" said one of the party. "These Americans keep up their mad pace to the very end."

◆ ◆ ◆

Conscience is that still, small voice that tells a person the other fellow may have a better lawyer.

THE MAN WITH THE ★ MULTIWALL PLAN

UNION PACKAGING SPECIALIST BLAINE LOUDIN

lowers a Multiwall user's overhead $37,584

66 minus 27 = 37,584. Loose logic? Not for a large agricultural chemicals' firm whose Multiwall Packaging and materials handling system was recently reviewed and revised by Union Packaging Specialist Blaine Loudin.

The 27 represents a reduction in the company's labor force from an original staff of 66. The 37,584 . . . seasonal dollar savings achieved following adoption of Union's recommendations for more efficient, economical operation.

Union Multiwall Recommendations are based on this 5-star Packaging Efficiency Plan

- DESIGN
- EQUIPMENT
- CONSTRUCTION
- SPECIFICATION CONTROL
- PLANT SURVEY

Among the new proposals: using a lateral bag conveyor for carloading. This improvement alone speeded handling and freed three men for other plant work.

The complete changeover was made using existing equipment and buildings with only slight modifications. Capital outlay expended by the company was paid back in less than 13 months.

This is a typical case of Union's 5-Star Packaging Efficiency Plan in action. Write for full information.

Better Multiwall performance through better planning

union camp

UNION'S PACKAGE ENGINEERING DEPARTMENT will study your Multiwall bagging methods and equipment and make appropriate recommendations, regardless of the brand of Multiwalls you are now using.

UNION MULTIWALL BAGS

UNION BAG-CAMP PAPER CORPORATION

233 BROADWAY, NEW YORK 7, N. Y.

SHOP TALK

OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

Signs in retail stores may be put into two categories. First, there is the label type of sign that has bare facts about the product or service it is designed to sell. Then there is the kind that talks to people, stopping their eyes and holding their attention while it puts across a selling message.

One store manager tried an experiment in which he arranged a display of farm chemical products. The signs on these merely stated make and price. He changed them for signs that talk.

The new signs put across a stopper message. Each offered a benefit—a reason why the passing prospect should stop and give his attention to the merchandise. Each concluded with an appeal to action: "Ask about your insect problems."

Two weeks later, the manager asked his salesmen whether they had noticed any appreciable difference in customers' interest in the section.

"Difference!" exclaimed one salesman. "Man, they ask me about them. Many times a day, someone who came for another purchase makes an inquiry. They don't all buy, but they sure are interested."

Talking signs won't always produce such an appreciably better response than label signs. But they can be depended upon to work some improvement in nearly every case.

What is a talking sign? It's a sign that does these things:

1. It prices the thing it is to sell.
2. It attracts attention.
3. It arouses the interest of passers-by.
4. It reduces the time needed to make a sale by providing vital information.
5. It is an aid in uptrading customers.

The most important thing to remember about talking signs is that each should apply pressure on an important reason why people buy. Ask what is the real need this item satisfies? Then use a short appeal to that need on the sign.

With all of this, a good talking sign is simple. It isn't wordy; its message can be caught by one who reads as he runs.

To aid in simplicity and quick legibility, fanciness must often be sacrificed. Fancy, involved curlicues may look good on a sign. But do they help to make its message read? If not, they have no place on it. No pen stroke which does not make a direct selling contribution has any place on a talking sign. Mere beauty isn't enough.

Too, there should be an invitation to action. The dealer who experimented with farm chemical counter display signs did this by suggesting that the prospect inquire. The old line, "Buy now" is so trite that people hardly see it; it's like "yours of the tenth instant received" on an old fashioned letter—and yet, with all its triteness, this corny line is better than no direct invitation for the reader to act.

Signs should help the sale along by giving necessary information. This doesn't mean they have to be verbose. Only the most vital facts belong on a sign, and then only in the shortest number of words which can express them clearly.

Bonnie Plant of IMC Shows Fast Growth

CHICAGO—Production of concentrated superphosphate fertilizers and feed phosphates at the Bonnie plant of International Minerals & Chemical Corp., has increased from 34,000 tons to 235,000 tons in three years, according to a progress report issued recently by the company. The firm has under construction new facilities which will double present output of the plant, which is located near Bartow, Fla.

CALIFORNIA LAW

SACRAMENTO — Senate Bill 802 to permit the California director of agriculture, after investigation and hearing, to prohibit or restrict propagation and sale of fruit, nut or vine nursery stock produced from varieties found to be generally infected with a dangerous or detrimental virus, has been signed into law by Goodwin J. Knight, California governor.

ILLINOIS HUDDLE—These entomologists from the University of Illinois College of Agriculture and Natural History Survey are seldom found together during the summer and fall. That's because they travel Illinois widely checking over the insect situation. Looking over some corn on the University agronomy farm recently they are, left to right, Steve Moore, Clarence White and H. B. Petty. Mr. Petty prepares the weekly insect survey bulletin sent to newspapers, radio and TV stations and individual subscribers.

PASTURE CARE SHOWS RESULTS—Aside from ample fertilization, pastures also require constant maintenance. This striking photo shows the effects of mowing. Non-mowed pasture at the left contrasts the mowed land at right to illustrate the benefit of mowing at the proper time of the year (June) on grass improvement and brush control. The locale is near Woodward, Oklahoma. (USDA photo)

GRASS YIELDS MAY TRIPLE

(Continued from page 9)

normal. The soil type is classified as a Melrose sandy loam.

In both years we found that approximately 100 lb. actual nitrogen (300 lb. ammonium nitrate) applied to the pure grass plots resulted in about the same total yield as that obtained from mixtures of Ladino clover and grass containing approximately 50% Ladino. The pure grass plots continued to show economical increases in yield up to about 200 lb. applied nitrogen.

The three grasses did not appear to be greatly different in total forage production at intermediate levels of nitrogen fertilization. They differed, however, in their distribution of yield throughout the season. Orchardgrass was inferior in yield in the June cutting, but was much superior in aftermath production. Split application of nitrogen during the season resulted in an aftermath production of 50% of the total yield for orchardgrass, while bromegrass and timothy had only 35 and 32%, respectively, of their total yield in the aftermath.

We concluded that not more than 60 to 80 lb. actual nitrogen should be applied to the first crop. Higher rates of nitrogen resulted in considerable lodging of the June crop, and especially in the timothy.

One of the most important considerations in nitrogen fertilization of grasses is the flexibility in management it permits. For example, nitrogen can be withheld from the first cutting on wet fields where past experience has revealed problems in harvesting the spring crop. Then such fields can be topdressed at one or more times throughout the summer to provide a good second crop for hay or for several periods of grazing.

Nitrogen applied in the fall was less effective than nitrogen applied in the spring in one of the two seasons studied. Yields in 1955 from ammonium nitrate applied in mid-October 1954 were nearly equal to yields from nitrogen put on in April 1955. In 1956, however, the April application resulted in yield increases of 57, 54, and 64% for orchardgrass, bromegrass, and timothy respectively. Apparently considerable leaching of the fall-applied nitrogen occurred during the winter and early spring of 1955-56.

The results of our nitrogen studies to date, which include work begun in the Skowhegan area in 1956, justify certain tentative conclusions regarding the economic usage of nitrogen on grassland containing little or no legume. These may be listed as follows.

First as much as 150 lb. actual nitrogen an acre a year may be efficiently used on any of the higher yielding grasses, providing adequate potassium and phosphorus are also used. Orchardgrass may justify somewhat higher rates of nitrogen because of its superior aftermath production.

Second, split applications of nitrogen are essential in any intensive program of nitrogen fertilization, but not more than 80 lb. nitrogen should be used for the spring crop, with the rest applied in one or more summer applications.

Third, fall-applied nitrogen is subject to considerable loss by leaching, particulary when applied to the better-drained soils.

This information is presented as a progress report. The present studies will be continued for several seasons to evaluate the long-term response of grasses to nitrogen. It can be concluded, however, that one of the most important practices in economic forage production lies in a greatly increased use of nitrogen on haylands and pastures following the decline of the legume.

Mosquito Control Program Announced

CHARLESTON, S. C. — A permanent program to curb mosquitoes in spoil areas bordering this seaport city has been announced by the U.S. Army Engineers, Charleston District.

The program will include continuation of aerial and ground spraying of the areas, and weekly inspections by the district engineers, state and county health officers.

Swarms of the insects have been coming from marshy land. Clyde F. Fehn, U. S. Public Health Service mosquito control specialist who has been studying the problem, said that the mosquito has "greatly increased along the East Coast and Gulf states in the last several years."

JOINS CONNECTICUT STAFF

NEW HAVEN, CONN. — Lloyd V. Edgington has been appointed to the research staff in plant pathology at the Connecticut Agricultural Experiment Station. James G. Horsfall, director of the station, said that Dr. Edgington will devote much of his time to research on diseases of potatoes. Dr. Edgington will also be one of the group of station scientists continuing studies of Dutch elm disease and its control. Dr. Edgington comes to Connecticut from the University of Wisconsin, where he has carried on plant disease research since earning the Ph.D. degree there in 1956.

GREAT PLAINS

(Continued from page 1)

taken out of production by hous-
highways and industry. With the
reasing population to feed, this
ans that each acre must produce
re.

Fred M. Stewart, Agricultural mmonia Service, Inc., Santa aula, Cal., president of the AAI, tlined the brief history of an- ydrous ammonia application in alifornia. First used in irrigation ater, direct application to the il was started later. Now, Mr. tewart said, 70% of NH_3 is in- cted and 30% applied through ir- gation. Amounts used range from to 40 lb. pure nitrogen an acre r grains on dry land up to 300 . an acre for citrus crops.

Mr. Stewart called for continued phasis on safety. NH_3 can be dan- rous to handle, he said, but is as fe as any farm chemical if han- d properly.

In that connection, the AAI head minded applicators that adequate surance programs are essential to e operation of a sound business. od credit policies and accounting ethods are also important, he said.

The nutrient needs of Kansas soils ere outlined by Robert A. Bohan- n, extension specialist in soil test- g.

It is easier to determine the soil eeds for nutrients such as phos- orus and potash, he said. In find- g out what amount of nitrogen will oduce maximum results, crops and il history is needed in addition to il analysis, he said.

The fertilizer needs of various ansas crops were explained by Dr. W. Smith, professor of soils and airman of the conference.

"The greatest opportunities for rtilizer programs are for forage nd grain sorghums," he said.

The tremendous potential for ex- pansion of irrigation was brought ut by Russell Herpich, extension rrigation engineer. He predicted hat by 1960 there would be a mil- lion acres in Kansas under irriga- tion, or nearly double the number today.

In grazing studies in east central ansas, reported by J. E. Braum, ssistant agronomist, it was found hat more grazing days per acre and ore pounds of beef per acre re- ulted on the pasture land with high rtility levels.

Southeastern Kansas studies were eported by F. E. Davidson, super- ntendent, Mound Valley Experiment tation. There is a need, he said, for ore nitrogen and phosphorus. He ound no basis for the belief held by ome that livestock must have extra inerals to make up for deficiencies f the soil. Salt is the only extra eed, he said. Trace minerals are ot lacking in locally grown feed.

In Southwest Kansas, fertilizer studies reported by Roy Herring, assistant agronomist, Garden City Experiment Station, showed that, in general, response to nitrogen is more likely to occur on soils which: (1) Have been irrigated for more than three years; (2) Have not produced a legume crop in the past three years; (3) Have not been summer fallowed; (4) Have pro- duced high yields of non-legumin- ous crops in the previous year; (5) Have adequate irrigation water.

R. A. Krantz, Yaggy Plantation, Hutchinson, Kansas, and an AAI di- rector, expressed concern over the recently announced price increase for nhydrous ammonia. "I am afraid e can't pass it on to the farmers," e said. He said, however, that he as sure the farmers would be us- ng some form of nitrogen, and "our ompetitive position will determine ow much of the market we get."

On the basis of extensive Kansas tudies, J. A. Hobbs, associate pro- fessor of soils, reported that he could see little if any benefit from sub-soiling. If there is any, he said, it is not enough to pay for the sub-soiling. On the basis of their studies he stated there is no reason to recommend deep placement of fertilizer, either.

The need for basic research was stressed by Dr. Donald D. Johnson, associate professor of soils, Colorado State University. He explained with diagrams the present knowledge of how ammonia acts in the soil, and how plants utilize the ammonia. Man can do little more than cooperate with basic processes or try to modify them to his use.

"If we are to modify such processes to suit our needs, then we need considerable basic research—fundamental studies in which no objective other than desire to know more of processes involved and the factors which control them are needed. The day may come when our practical research will come to a halt because we have forgotten or ignored the need for fundamental research," Dr. Johnson said.

Reporting on fertilizer studies with native grasses in Oklahoma, Dr. Billy Tucker, agronomist at Oklahoma State University, concluded that "we cannot make recommendations for fertilizing native grasses because of the encroachment of undesirable winter grasses and weeds. However, fertilizer can be used profitably in years when a seed crop is desired."

Jack F. Criswell, AAI executive secretary, Memphis, was master of ceremonies for the banquet July 11 held in the Wareham Hotel.

L. C. Mitchell Wins First AOAC-Wiley Award

WASHINGTON—Lloyd C. Mitchell, research chemist of the Food and Drug Administration, has been selected to receive the annual Harvey W. Wiley Award of the Association of Official Agricultural Chemists. Mr. Mitchell is the first winner of the award, which was established last year to honor the father of the original Pure Food and Drug Law.

The award consists of $500 in cash and goes to the scientist who makes an outstanding contribution to the development of methods for the analysis of foods, drugs, cosmetics, feeds, fertilizers, pesticides and soils, or for use in general analytical chemistry. A food chemist from the beginning of his career in 1909, Mr. Mitchell developed many methods of analysis for spices, cereals, dairy products and eggs.

REMEMBER TO ORDER
CHASE BAGS
There's None Better!

BIG DAVE SAYS,

DAVISON GTS* now guarantees you a 46% A.P.A. minimum!

*Granulated Triple Superphosphate

HIGH IN P_2O_5 CONTENT—Because it is constant in analysis its guaranteed minimum is 46% A.P.A.

UNEXCELLED QUALITY —Because of Davison's more than century of experience in fertilizer formulation DAVISON Granulated Triple Superphosphate is the standard by which all other granulated products are compared. It is guaranteed to satisfy you on every count.

EASY TO HANDLE—Because of its uniform particle size it spreads evenly and uniformly and is perfect for direct applications. Does not deteriorate in handling, packaging or storage.

IDEAL FOR FORMULATIONS—Because it is easy to blend. Excellent for alkaline goods and especially recommended for O-25-25.

"TRIPLE" IN SERVICE AND DELIVERY TOO—You get DAVISON GTS *when* you want it, *where* you want it, the *way* you want it.

Progress Through Chemistry

DAVISON CHEMICAL COMPANY
Division of W. R. Grace & Co.
Baltimore 3, Maryland

Producers of: Catalysts, Inorganic Acids, Superphosphates, Triple Superphosphates, Phosphate Rock, Silica Gels, Silicofluorides, Rare Earths and Thorium. Sole Producers of DAVCO® Granulated Fertilizers.

Industry Patents and Trademarks

2,797,144

Production of Ammonium Nitrite Solutions. Patent issued June 25, 1957, to George G. Joris, Madison, N. J., assignor to Allied Chemical & Dye Corp., New York. In a process for producing ammonium nitrite solution by contacting nitrous gas containing as nitrogen oxide constituents nitric oxide and nitrogen dioxide in the mol ratio of at least 4:1 nitric oxide:nitrogen dioxide, said nitrous gas having nitric oxide concentration of at least 2 mol percent and inert gas concentration of at least 65 mol percent, with oxygen and at least one basic ammonium compound of the group consisting of the ammonium carbonates and ammonium sulfite dissolved in aqueous basic solution, the improvement which comprises: maintaining at least a pair of communicating gas-liquid scrubbing zones; recirculating through each of said zones a separate body of the aqueous basic solution; cooling the separate body of solution in each zone to temperature between about 40° C. and about minus 5° C.; feeding into absorbing contact with the aqueous solution in the first zone at least part of the incoming nitrous gas; continuing said absorbing contact in said first zone until ¼-¾ of the nitrogen oxide content of the gas is removed from the gas fed thereto; continuously passing the increment in the body of solution in each zone except the last one to a body of solution of a zone following and continuously passing unabsorbed gas from each zone except the last one to a zone following, thereby maintaining in the body of solution in each zone successively lower concentration of basic ammonium compound in contact with nitrous gas successively less concentrated in said nitrogen oxide constituents; withdrawing unabsorbed gas from the last zone; and withdrawing as product the increment in ammonium nitrite solution from the last zone.

2,797,148

Recovery of NH_3 from a Gaseous Mixture Containing NH_3 and HCN. Patent issued June 25, 1957, to Harrison C. Carlson, Wilmington, Del., assignor to E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. The process of recovering ammonia from a mixture of gases containing ammonia and HCN which comprises passing said mixture through an aqueous absorbing solution of ammonium hydrogen phosphate, whereby substantially all of the ammonia and a minor portion of the HCN are absorbed in said solution and a major portion of the HCN passes unabsorbed from said solution, subsequently passing through the solution resulting from the above step such a
amount of steam as to remove al
sorbed HCN but only a minor propo
tion of the absorbed ammonia ther
from, subjecting the resulting sol
tion to heating to strip remainin
available ammonia therefrom, an
collecting the ammonia stripped fro
said solution in said last step.

2,797,151

**Apparatus for Producing Nitr
Acid.** Patent issued June 25, 1957, t
Fredrich Schnur and Aloys Krau
Oberhausen-Sterkrade, and Fran
Schaub, Duisburg-Hamborn, Ge
many, assignors to Ruhrchemie Akt
engesellschaft, Oberhausen-Holte
Germany. An apparatus for the ma
ufacture of nitric acid by the ab
sorption of nitrous gases in a liqui
comprising a tower having sever
packed compartments arranged i
superposition, a bottom inlet for th
gases to be absorbed, a gas suctio
pipe positioned within said tower an
traversing said superposed compart
ments, the pipe having an open to
extending above the uppermost laye
of packing and having an outlet fo
exhaust gases at its bottom, an inle
for the absorbing liquid, and a bot
tom outlet for the nitric acid, mean
for recycling liquid collecting at th
bottom of each compartment in tha
same compartment and individua
cooling means adapted to permit in
dividual control of cooling tempera
tures in the recycling means of eac
compartment, collar-like vessels sur
rounding said pipe at the top of eac
compartment except the uppermos
compartment, an annular opening i
the bottom of each such vessel i
proximity to said pipe, and inlet pipe
traversing the wall of said tower an
opening into each vessel.

2,797,154

**Treating Urine with Carbon Di
oxide to make a Liquid Fertilizer.**
Patent issued June 25, 1957, to Yrj
Kauko, Helsingfors, Finland. A meth
od of preparing liquid animal manur
containing urine for storage in th
liquid state, thereby preventing nitro
gen losses during such storage, whic
consists in introducing carbon diox
ide into said manure in amount suf
ficient only to lower the pH of sai
manure to below 7.

2,797,181

**Stabilized Dithiocarbamate Pesti
cidal Composition.** Patent issued Jun
25, 1957, to Roger E. Drexel, Wil
mington, Del., assignor to E. I. du
Pont de Nemours & Co., Inc., Wil
mington, Del. A pesticidal composi
tion comprising an aqueous solution
containing a material selected from
the group consisting of salts of alkal
and alkaline earth metals in sufficien
amount to contribute to the solution
at least 0.10 mol per liter of the ca
tion of said salt, and a dithiocarba
mate selected from the group con
sisting of alkali and alkaline earth
metal mono lower saturated and
ethylenically unsaturated aliphati
dithiocarbamates.

2,797,195

**Production of Benzene Hexachlor
ide.** Patent issued June 25, 1957, t
Joseph A. Neubauer, Pittsburgh, Pa
Franklin Strain, Barberton, and
Frederick E. Krung, Akron, Ohio, and
Frederick C. Dehn, New Martins
ville, W. Va., assignors to Columbia
Southern Chemical Corp. A metho
of producing benzene hexachloride b
catalytic additive chlorination of ben
zene with chlorine which comprise
performing the reaction in a liqui
reaction mixture of benzene and
compound selected from the grou
consisting of acetic anhydride an
acetyl chloride, while maintaining th
concentration of chlorine in the mix
ture between about 0.005 and 1.5 per
cent by weight of the benzene an
said compound and maintaining th
temperature of the reaction mixtur
below the freezing point of benzene

2,798,766

Spraying Apparatus. Patent issue
July 9, 1957, to Edward O. Norris
Westport, Conn. A spray device com

Take a good look at your multiwall bag!
IS YOUR MULTIWALL BAG "DATED" ?
Like women's bathing suits, multiwall bags also reveal the passing of time.
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sing a fixed casing, a hollow ft mounted for rotation therein, ead carried by said shaft having eripheral wall provided with open- s spaced therearound through ich material is sprayed, a fixed d pipe for said spray material dis- ed within said hollow shaft, a zzle communicating with the end of d feed pipe within said rotating d, said nozzle having a discharge ening disposed adjacent the inner ripheral surface of said head in istration with said first openings discharge the spray material from d nozzle directly into said first enings for psraying whereby the jor portion of the spray material sprayed outwardly in a limited ripheral segment around said head.

2,797,767

Fertilizer Dissolver. Patent issued ly 9, 1957, to Alvadore M. Andrews, rtland, Ore., assignor to A. M. An- ews Co., Portland, Ore. In a fer- izer dissolving apparatus of the ss described, a cylindrical open top ntainer adapted to receive the fer- izer to be dissolved, a cap for said ntainer, a filtering device suspend- in said container comprising an perforate, tubular side wall por- on concentric with said container d abutting at its top end against id cap and extending downwardly to said container, and a filter reen portion secured across the bot- m end of said side wall portion, d passage means for passing into d subsequently removing from said ntainer water for dissolving said rtilizer carried by said cap, said ssage means being adapted at one d for connection to a source of wa- r, an opening from said passage eans through said cap within the ounds of said tubular wall portion, diverting valve in said passage eans for diverting through said pening and impinging tangentially on the inner wall of said tubular de wall portion at least a part of he water passing through said pas- age means to provide a body of wa- r in said container swirling about he axis thereof, and duct means ex- ending between an outlet opening n the center of said cap and an open- g in said passage means down- tream of said valve for conducting ater from the portion of said swirl- g body of water adjacent said axis nd said cap for said container.

2,798,801

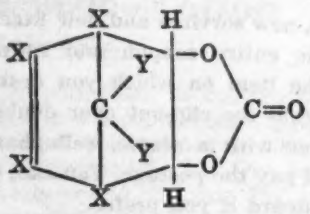
Production of Pelletized Nitrogen- us Fertilizers. Patent issued July 9, 957, to Dale Clark Kieffer, Russell Davis, and Herman Goldsborough owers, Norfolk, Va., assignors to mith-Douglass Co., Norfolk, Va. A rocess for continuously producing ellets of a fertilizer composition con- aining a hygroscopic nitrogenous alt, which comprises forming at an levated temperature a liquid disper- ion of said composition having as its ase an aqueous solution of said salt o concentrated that it crystallizes at oom temperature, continuously mix- g and tumbling with a stream of aid liquid dispersion a mass at least everal times greater, by weight, of preformed dried granules of said com- osition, said granules consisting pre- dominantly of pellets in the size range of the desired product, thus forming oatings of said dispersion on said granules and immediately solidifying aid coatings thereon, then continu- ously drying the coated granules.

2,799,562

Automatically Controlled Gas Com- pression for Ammonia Synthesis. Pat- nt issued July 16, 1957, to Sidney A. Bresler, New York, assignor to Chem- cal Construction Corp. Apparatus or the synthesis of ammonia compris- ng in combination a gas compressor aving an inlet for a nitrogen-hydro- en mixture, an unloader and an out- et connecting with a compressed gas ine leading to a converter, a hydro- en supply line having a constant ressure gas holder in free communi- ation therewith, a nitrogen supply ine connecting with said hydrogen upply line between said compressor inlet and said gas holder, and means responsive to the quantity of gas in said gas holder for actuating said compressor unloader to vary the compressor capacity in accordance therewith.

2,799,567

Herbicidal Halocycloheptenediol Carbonates. Patent issued July 16, 1957, to William K. Johnson, Dayton, Ohio, and Tad Le Marre Patton, Bellaire, Texas, assignors to Monsanto Chemical Co., St. Louis. A compound of the structure



where X is a halogen atom having an atomic weight of below 100, Y is selected from the class consisting of halogen atoms having an atomic weight of below 100, lower alkoxy radicals, and lower alkymercapto radicals, where said lower alkoxy radicals and lower alkylmercapto radicals containing up to 4 carbon atoms.

2,799,568

Plant Growth Regulation. Patent issued July 16, 1957, to Seward E. Allen, Overland Park, Kan., and Clarence W. Huffman, El Dorado, Ark., assignors to Monsanto Chemical Co., St. Louis, Mo. The method of regulating the growth of plants which comprises applying to said plants and surrounding earth containing same an amount of nitrourea sufficient to regulate the growth of said plants.

DECLARES 25¢ DIVIDEND

ST. LOUIS, MO.—The Board of Directors of Monsanto Chemical Company today declared the regular quarterly dividend of 25¢ a share on the company's common stock payable September 16 to holders of record August 24.

Scientists Announce New Magnesium Finding Method

ITHACA, N. Y. — A new, faster method of finding the magnesium content of mixed fertilizers has been published by two chemists of Cooperative G.L.F. Exchange soil building division.

William J. Tucker, manager of G.L.F. laboratory in Ithaca, and Henry E. van Thiel, senior lab chemist, have perfected a determination which reduces the time to make the test from 1½ days to only four hours.

Their method is based on the fact that magnesium reacts precisely with chelating agents. The extent of the reaction is measured by using dyes which change color when the reaction is completed.

The G.L.F. chemists worked six months to develop their method, now being used for several hundred tests a year in the G.L.F. laboratory.

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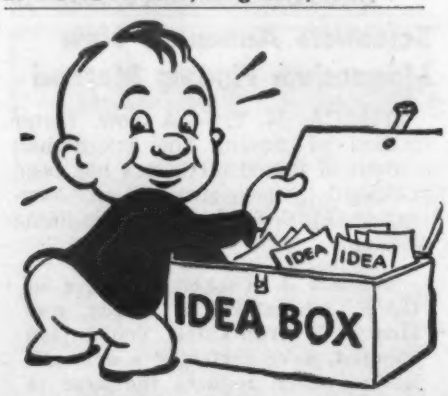


What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6610—Laboratory Pellet Mill

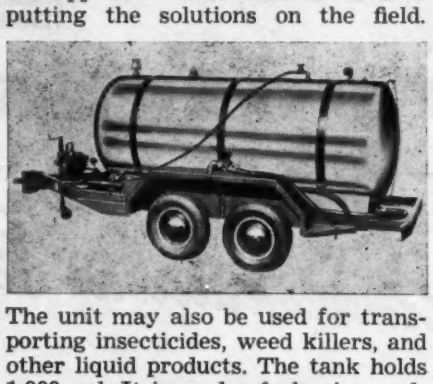
The California Pellet Mill Co. has available a laboratory pellet mill which is claimed to have broadly diversified application in various chemical industries. Essentially, the equipment is designed to compress loose or fine particles into hard pellets. Advantages of the laboratory pellet mill, according to the company, are: Adds flexibility to plant operations by allowing the plant to make its own tests and experiments; better test control; no interruption in regular production runs because a regular pellet mill need not be used; and contamination due to experimental materials being mixed with regular production runs is avoided. Secure details by checking No. 6610 on the coupon and mailing it to Croplife.

No. 6599—Chemical

The Crown Zellerbach Corp., chemical products division, announces increased production of dimethyl sulfide, a basic and intermediate chemical, claimed to be more than 99% pure. Company spokesmen said the chemical is useful both for its physical properties and as an intermediate, but that it may find its major use as a raw material in chemical synthesis, for example, for making solvents, polymers and chemicals for agriculture. Reduced cost of the chemical is also announced. Secure a booklet, "Properties and Suggested Uses of Dimethyl Sulfide," by checking No. 6599 on the coupon and mailing it to Croplife.

No. 6615—"Nurse Tank" Transport

General Metals, Inc., is now in production on a new trailer-mounted "nurse tank" transport designed for hauling nitrogen solutions and liquid fertilizers from storage tanks to the farm and out to the field. It serves as a source of supply for trailer or tractor applicator units and is used in putting the solutions on the field.



The unit may also be used for transporting insecticides, weed killers, and other liquid products. The tank holds 1,000 gal. It is made of aluminum alloy to withstand 30 p.s.i. working pressure. To receive literature, prices and other information check No. 6615 on the coupon and mail it to Croplife.

No. 6601—Toxaphene Folder

The use of toxaphene insecticides to control various insect pests which attack tomatoes is described in a new folder issued by the Hercules Powder Co. The leaflet discusses typical applications for the control of tomato hornworm, tomato russet mite, flea beetles, vegetable weevil, cutworms, tomato fruitworm, and blister beetles. To secure the folder check No. 6601 on the coupon and mail it to Croplife.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6588—Sulfur Brochure

The Stauffer Chemical Co. has published a comprehensive 48-page brochure on sulfur. The brochure contains a description of production and refining techniques, statistics on the world's production of sulfur, and notes on the various uses of the material. It also includes specifications for the several types of conventional and insoluble sulfurs used in industry and agriculture, and tabulations of the physical and chemical properties of sulfur in its different forms. A copy of the brochure, "Stauffer Sulfurs," is available free on request. Check No. 6588 on the coupon and mail it to Croplife.

No. 6603—Technical Data Bulletin

Thiosemicarbazide, a reactive compound which behaves as a mono-acid base and is a strong reducing agent, is described in a new technical data bulletin issued by the industrial chemicals division of the Olin Mathieson Chemical Corp. The bulletin describes the product's application in insecticides, fungicides, antibacterial agents and stabilizers. The four-page bulletin gives information on physical and chemical properties, typical reactions, uses, literature references, and availability. Secure it by checking No. 6603 on the coupon and mailing it to Croplife.

No. 6605—Fly Killer

African Pyrethrum Development, Inc., announces a fly killer for dairy barns that is "positive and economical but completely harmless to cows and to consumers of dairy products." The announcement was made following the establishment by official sources "that these qualities have been proven for formulations containing Pyrethrum (PYR), the natural flower-base insecticide, in combination with certain approved synergists, which extend and increase PYR's natural capabilities," according to officials of the organization. The synergized compounds are said to be equally effective in the form of sprays, fog, wettable powders or emulsions. A booklet is available without charge. Check No. 6605 on the coupon and mail it to Croplife.

No. 6612—Turbine Type Mixer

The T. L. Smith Co. has introduced a mixer incorporating new design principles. The mixer is said to fit into spots too low for many types of mixers and "mixes so thoroughly that it actually homogenizes the materials." The mixer has a doughnut shaped mixing drum. The drive mechanism is located in the center of the drum. The drum shape is claimed to provide a "live mix" and eliminate dead centers in the mixing area. The mixer has application in the fertilizer and chemical industries, the manufacturer states, and it is possible to use a forced air exhaust so as to dissipate fumes and harmful gases. The blade action gives virtually instantaneous mixing for dry batches, according to the company. The mixer is made in three sizes: 17½-, 35-, and 53-cu. ft. dry batch. It can be used as a stationary or portable mixer. Secure details by checking No. 6612 on the coupon and mailing it to Croplife.

No. 6602—Fertilizer Bulletins

Fertilizer application is the subject of three new farm service bulletins offered to agents, dealers and farmers in the Middle Atlantic area by the I. P. Thomas Division of the Pennsalt Chemicals Corp. "Side Dressing Fertilizer," "Rotation Fertilization," and "Economics of Fertilizer Applications" give detailed recommendations on the various elements required during the growing season, types of commercial fertilizers, and methods of application to supply sufficient plant food for profitable yields. A reference table shows average composition of 39 common fertilizer materials. The bulletins are available by checking No. 6602 on the coupon and mailing it to Croplife.

No. 6611—Weed Control Guide

The soil building division, Cooperative GLF Exchange, Inc., has available its 1957 chemical weed control guide. A copy is available without charge. Check No. 6611 on the coupon and mail it to Croplife.

No. 6614—Waste Drying System

The Standard Steel Corp. has developed a new drying system for treatment of sewage sludge and industrial wastes. The basic unit in the system is the Standard-Hersey rotary dryer which can handle sludge of 75-80% moisture, reducing it to 6% moisture, according to company officials. The officials state: "A saleable product of uniform particle size, friable and non-dusty in character, is obtained. This product can be treated to a definite pH (by adding ferrous sulphate to lower pH or lime to raise it) and can be improved as a fertilizer by easy addition of nitrogen and

Send me information on the items marked:

- ☐ No. 6588—Sulfur Brochure
- ☐ No. 6599—Chemical
- ☐ No. 6601—Toxaphene
- ☐ No. 6602—Bulletins
- ☐ No. 6603—Data Bulletin
- ☐ No. 6604—Carrier
- ☐ No. 6605—Fly Killer
- ☐ No. 6606—Cotton Miticide
- ☐ No. 6607—Piping Systems
- ☐ No. 6608—Bulletin
- ☐ No. 6609—Ant Film
- ☐ No. 6610—Laboratory Mill
- ☐ No. 6611—Weed Control Guide
- ☐ No. 6612—Mixer
- ☐ No. 6613—Gravity Application
- ☐ No. 6614—Drying System
- ☐ No. 6615—Nurse Tank

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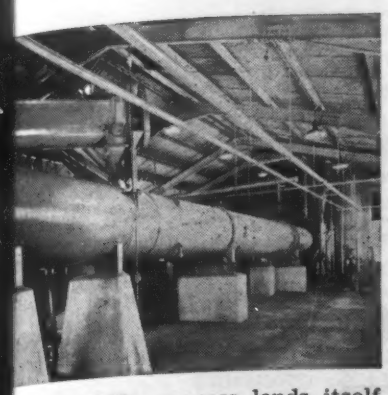

osphorus. The process lends itself simple addition of chemicals. The yer serves as an excellent mixer d the sludge is a good carrier of ditives because of its bulky nature much surface area is available." In e picture the pug mill (upper left) eds sewage sludge to the rotary yer at the Broadway sewage dis- sal plant at Corpus Christi, Texas. he screw conveyor going to the pug ill brings recycled dried product to ix with the wet feed which is de- vered to the pug mill on a belt con- yor. Secure details on the system checking No. 6614 on the coupon d mailing it to Croplife.

No. 6608—Technical Bulletin

A technical bulletin (No. 5) on rethane (ethyl carbamate) has been repared by the organic chemicals ivision, Food Machinery & Chemical orp. According to the company's an- ouncement, there is a "growing in- erest in urethane" in the field of gricultural chemicals (including eed killers, fungicides and insecti- ides). Secure the bulletin by check- ng No. 6608 on the coupon and mail- ng it to Croplife.

No. 6604—Carrier for Liquid Toxicants

New literature has been prepared y the Minerals & Chemicals Corpo- ation of America on its product, At- aclay, a carrier for liquid toxicants. dvantages claimed for the product re: Great sorptive capacity in high r low concentrations, with either iscous or "watery" poisons; pro- uces dust bases, wettable powders hat are dry, free-flowing, lump-free; nd rapid, uniform impregnation. ecure the literature by checking No. 604 on the coupon and mailing it to roplife.

No. 6607—Piping Systems

Details of polyvinyl chloride pipe, ittings, flanges and valves for use with liquid fertilizers are available in iterature prepared by Tube Turns lastics, Inc. The picture gives a lose up view of the firm's piping that erves one of the liquid fertilizer mix- ng tanks owned by the Washington Cooperative Farmers Assn. Advan- ages claimed for the piping are: Re-

ists the attack of corrodents; is un- affected by weather conditions; re- quires no paint; and has long life. Secure details by checking No. 6607 on the coupon and mailing it to Crop- life.

No. 6609—Ant Film

Insecticide formulators, distributors nd dealers can now obtain copies of new color-sound film on ant con- rol, prepared recently by the Uni- ersity of Georgia extension service. The film is described as being "non-commercial, interesting, and authentic, and it affords a means for training personnel in modern ant control methods, or providing a factual background for ant insecticide sales promotions." The film covers the life cycle, habits, and control of ants. Copies are available in black and white as well as color and it has been cleared for TV use. The running time is 13½ min. Copies of film may be obtained on a free, loan basis. For full details check No. 6609 on the coupon and mail it to Croplife.

No. 6606—Cotton Miticide

"Chipman 6199" is the product described in a technical service bulletin which has been issued by the Chipman Chemical Co., Inc. The product, formerly called "Tetram 75," and its recommendations for experimental use on cotton are outlined in the bulletin. The product is described as a fine granular, non-duty organic phosphorus compound which is readily soluble in water for spray application. It is claimed to kill spider mites and suppress aphids. Secure the bulletin by checking No. 6606 on the coupon and mailing it to Croplife.

No. 6613—Gravity Application

A new gravity application kit, designed to provide more accurate application of fumigants, has been developed by Fabricated Metals, Inc. The unit attaches to a tractor. Liquid flows by gravity from a supply tank through metering tubes that regulate rate of flow to ground applicators. From two to six outlet headers may be used. The kit is described in a data sheet available free. To receive it check No. 6613 on the coupon and mail it to Croplife.

Green Pasture Judges Named in Vermont

BURLINGTON, VT. — E. Frank Myott, Enosburg, chairman, Vermont agricultural stabilization and conservation committee, Winston Way, extension agronomist, and Dwight Eddy, extension farm management specialist, will serve as Vermont's three state Green Pastures judges this summer.

These three men were to start judging Vermont's county winners on August 5. The judging continues throughout the week.

Messrs. Myott, Way and Eddy select the three top farms in the state. These farms will then be visited by the New England Green Pastures judging team about August 23. New England judges select the state winner in each state while seeking the top farm in the region.

MAKES RESEARCH GRANT

GAINESVILLE, FLA. — The Rockefeller Foundation has granted the University of Florida $9,000 for research in tropical soils. The work will be carried on by Hugh Popenoe, a graduate student.

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E. L. Hassell, General Manager of Gibraltar Floors, Inc., manufacturers of Dry Mix Concrete, Detroit, Michigan.

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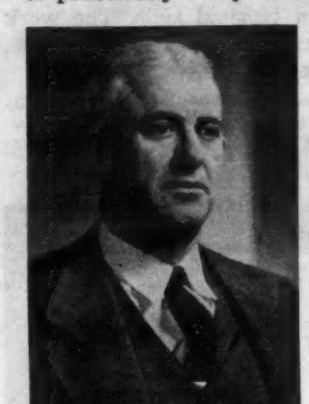
A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Northeastern states.

BIOGRAPH . . .

Vernon S. Gornto, "Mr. Safety," Retires

One of the best friends of and most enthusiastic boosters for safety in the fertilizer industry has just retired from active duty at Smith-Douglass Co., Norfolk, Va. He is Vernon S. Gornto, known to practically everyone in the fertilizer trade who who has anything to do with safety, and to many others who have heard of his devotion to the cause and his effective leadership in seeing the germ of an idea develop into a going concern.



V. S. Gornto

Mr. Gornto has been with the Smith-Douglass organization for many years. He was a charter member and later national chairman of the fertilizer safety group and worked steadfastly toward achieving section status in the National Safety Council, which the fertilizer industry presently enjoys.

Some seven years ago, a group of a half-dozen men got together to discuss a subject close to the hearts of all of them . . . safety. Mr. Gornto was one of these men, and shared their recognition of the need for a serious effort to reduce the accident rate in the fertilizer industry and in turn to lower costs to individual fertilizer manufacturers. The idea needed a certain type of personality to fan the spark and to publicize the idea and in short, to do a selling job to the industry. That man turned out to be Vernon S. Gornto.

At the past seven meetings of the National Safety Council in Chicago, where the fertilizer group held its sessions in connection, Vernon's voice was heard in a significant way, even in recent years after he had been succeeded as chairman by others of similar capabilities.

He is thus a charter member of the fertilizer section, and in addition to his having been general chairman of the group, also served as secretary, vice chairman, and lately as chairman of the legislative and insurance committee.

Although he would be reluctant to accept more than a small share of the credit for the fertilizer section's progress during the past seven years, the retiring safety expert has had a great deal to do with the development of the safety movement within the fertilizer industry.

Starting out as a small group of zealous men, the movement now embraces every state in the union, plus Canada, and has accomplished a 40% reduction in the accident frequency rate of members during this time. National recognition has been accorded the group.

Employed as safety director, director of fire prevention, and manager of the insurance department of Smith-Douglass, Mr. Gornto has brought about an enviable record within that company. In addition, he built an insurance program into the Smith-Douglass firm, that is recognized as being unusually effective.

Friends of Vernon's frequently ask him how he found the time to accomplish so many things over the years. He states simply that he enjoys keeping busy, and that safety is such an important project in his life that it tends to keep him on the go all the time.

Yet, in addition to his outstanding work in safety on a national scale, Mr. Gornto found time to attend to numerous local assignments. Here are a few of his achievements less known to the fertilizer trade:

He was a charter member of the fertilizer section of the Virginia Safety Assn., organized in 1947. He served as chairman part of the time.

Organizer and former general chairman of the fertilizer section, North Carolina State Safety Conference. The same for South Carolina.

Organizer and served two years as general chairman of the fertilizer section of the Southern Safety Conference, organized in 1953.

Charter member and former vice president, American Society of Personnel Administration.

Charter member and former regional vice president, American Society Insurance Management.

Charter member and presently serving as a member of board of directors of the Virginia-Carolina chapter of the American Society of Insurance Management.

In his home town of Norfolk, Vernon is also kept busy. He is a member and former secretary of the Norfolk Kiwanis club; chairman of the fire prevention committee of the Norfolk Chamber of Commerce; member of the Norfolk Citizens' Traffic Safety Committee; member of the Downtown Club of Norfolk; member and past president of Norfolk Toastmasters' Club; and area governor of District No. 36, of Toastmasters International.

One would wonder how such an active man could suddenly be satisfied to settle down in a rocking chair and watch the parade go by. The answer is, he won't.

Vernon has announced his launching of "Insurance Unlimited," a Virginia corporation of which he is president and principal stockholder. In addition to directing the activities of the insurance business (in which he expects to handle the business of various fertilizer manufacturing firms), he will be working as an insurance consultant.

All of his friends throughout the trade will join in wishing him well as he begins a new career after completing a highly successful previous one.

Tax, Wage Policies Exert Extra Pressure on Farm

Government farm programs have a big influence on the income earned by farmers of the U.S., but at the same time, these programs do not exert as much influence in that direction as do government tax policies and industrial wage policies, according to an executive of the Cooperative Grange League Federation Exchange, Ithaca, New York.

In a recent talk before some 250 executives of the GLF who operate in the states of New York, New Jersey and northern Pennsylvania, Charles N. Silcox, general manager of GLF Exchange, expressed this idea.

"All of the talk about cutting government expenditures will have little effect so long as the laws remain on the books which require that these expenditures be made," he said.

Unimpressed by the economy wave in Congress Mr. Silcox stated, "It is wishful thinking to believe Congress is going to reduce the present budget enough to have any substantial effect on our present tax rate."

The present national economy assures Northeast farmers of continuing good markets for their products, he predicted.

"Farm income is on the increase," the speaker noted, "but the increase is being continually offset by higher costs over which the farmer has no control, mainly labor and taxes."

The observations made by Mr. Silcox about the farmer are no doubt true, and some of these principles might also be applied to business in general. As upward spirals tend to continue in non-farm enterprises, they keep exerting more and more pressure on the well-known "squeeze" that has pestered farmers for a long time.

Croplife's Home Office

Croplife

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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price, 25¢.

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MEETING MEMOS

Sept. 6—Annual Agronomy Fall Field Day, University of Nebraska, Lincoln; Clinton Hoover, extension agronomist, chairman.

Oct. 29—Grassland Farming Conference, Rutgers University, New Brunswick, N.J.

EDITOR'S NOTE—The listings above are appearing in this column for the first time this week.

Aug. 13-14—Ohio Pesticide Institute, Summer Meeting, Ohio Agricultural Experiment Station, Wooster, Ohio, J. D. Wilson, Ohio Agricultural Experiment Station, Secretary.

Aug. 14—Connecticut Agricultural Experiment Station Field Day, Mt. Carmel, Conn., Dr. James G. Horsfall, New Haven, director.

Aug. 21-22—Shell Nematology Workshop, Orlando Municipal Auditorium, Orlando, Fla.

Aug. 26-28—American Society for Horticultural Science, annual meeting in conjunction with annual meeting of American Institute of Biological Sciences, Stanford University, Palo Alto, Cal.

Aug. 28-31—Soil Conservation Society of America, Annual Convention, Asilomar, Cal.

Sept. 4—Kentucky Fertilizer Conference, Campbell House, Lexington, Ky

Sept. 4-6—National Agricultural Chemicals Assn., Annual Meeting Essex & Sussex, Spring Lake, N.J., L. S. Hitchner, 1145 19th St. N.W., Washington 6, D.C., Executive Secretary.

Sept. 5-6—Great Lakes States Anhydrous Ammonia Meeting, Michigan State University, East Lansing, Mich.

Sept. 8-15—International Congress of Crop Protection, Hamburg, Germany.

Sept. 24-25—New England Fertilizer Conference, Bald Peak, Colony Club, Melvin Village, N.H.

Oct. 2-4—Eleventh Annual Beltwide Cotton Mechanization Conference, Shreveport, La.

Oct. 3—New Jersey Fertilizer Conference, Rutgers University, New Brunswick, N.J.

Oct. 3-5—Pacific Northwest Plant Food Assn., Annual Convention, Sun Valley, Idaho, Leon S. Jackson, Lewis Bldg., Portland 4, Ore., Secretary.

Oct. 7-8—Western Agricultural Chemicals Assn., Fall Meeting, Villa Hotel, San Mateo, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Executive Secretary.

Oct. 14—Sixth Annual Sales Clinic of the Salesmen's Assn., American Chemical Society, Hotel Roosevelt, New York.

Oct. 15—Association of Official Agricultural Chemists, 71st Annual Meeting, Washington, D.C., Dr. William Horwitz, Box 540, Benjamin Franklin Station, Washington, D.C., secretary-treasurer.

Oct. 17—Conference on Chemical Control Procedures for Industry Chemical Control Analysts, Shoreham Hotel, Washington, D.C. Sponsored by National Plant Food Institute.

Oct. 18—Association of American Fertilizer Control Officials (States Relations Committee, 8 p.m. Oct. 17), Shoreham Hotel, Washington, D.C., B. D. Cloaninger, Box 392, Clemson, S.C., Secretary-Treasurer.

Oct. 21-22—Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago.

Oct. 29-30—Seventh Annual Northwest Garden Supply Trade Show of Oregon Feed & Seed Dealers Assn., Portland, Ore. Masonic Temple.

Oct. 29-31—Entomological Society of Canada and Entomological Society of Alberta, Annual Meetings, Lethbridge, Alberta.

Oct. 31-Nov. 1—Second Annual Southern Fertilizer Conference and Second Annual Southern Soil Fertility Conference, Dinkler Plaza Hotel, Atlanta, Ga.

Nov. 3-5—California Fertilizer Assn. 34th Annual Convention, St. Francis Hotel, San Francisco, Sidney H. Bierly, General Manager, 475 Huntington Drive, San Marino 9, Cal.

Nov. 6-8—Fertilizer Industry Round Table, Sheraton Park Hotel, Washington, D.C.

Nov. 13-15—National Aviation Trades Assn., Annual Convention, Hotel Adolphus, Dallas, Texas.

Nov. 17-19—National Fertilizer Solutions Assn., Annual Convention, Netherland-Hilton Hotel, Cincinnati, Muriel F. Collie, 2217 Tribune Tower, Chicago 11, Ill.

Dec. 1-3—Southern Seedsmen's Assn., Jung Hotel, New Orleans.

Dec. 2-5—Entomological Society of America, 5th Annual Meeting, Hotel Peabody, Memphis, Tenn., R. H. Nelson, 1530 P St., N.W., Washington 5, D.C., Executive Secretary.

Dec. 2-5—Cotton States Branch, Entomological Society of America, 32nd Annual Meeting, Hotel Peabody, Memphis, Tenn., M. E. Merkl, Box 202, Leland, Miss., Secretary-Treasurer.

Dec. 9-12—Chemical Specialties Manufacturers Assn., Hollywood Beach Hotel, Hollywood, Fla.

Dec. 10-12—North Central Weed Control Conference, 14th Annual Meeting, Hotel Savory, Des Moines, Iowa. Lyle A. Derscheid, agronomy department, South Dakota State College, Brookings, Program Chairman.

Dec. 11-13—Agricultural Ammonia Institute, Seventh Annual Meeting, Hotel Marion, Little Rock, Ark., Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

Dec. 12-13—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Tenn.

1958

Jan. 7-8—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

Jan. 13-15, 1958—Weed Society of America and Southern Weed Conference, joint meeting, Peabody Hotel, Memphis, Tenn.

Jan. 21-23—California Weed Conference, San Jose, Cal.

Feb. 13-14—Agronomists-Industry Joint Meeting, Edgewater Beach Hotel, Chicago, sponsored by the Middle West Soil Improvement Committee, Z. H. Beers, 228 N. LaSalle St., Chicago 1, Ill., Executive Secretary.

March 4-5—Western Cotton Production Conference, Hotel Cortez, El Paso, Texas, Conference Sponsored by the National Cotton Council and the Five State Cotton Growers Assn.

June 15-18—National Plant Food Institute, Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 25-27—Pacific Branch, Entomological Society of America, San Diego, Cal.

July 18-19—Southwest Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Texas.

IMC Promotes Two In Research Division

CHICAGO—The promotion of two scientists in the research division of International Minerals and Chemical Corp. has been announced by Dr. I. M. LeBaron, vice president in charge of research.

Dr. M. B. Gillis was named director of research succeeding Dr. LeBaron, and Dr. William C. Knopf, Jr., was appointed assistant director of research, with broad responsibilities in all areas of the division.

Dr. Gillis became associated with IMC in 1945 through a fellowship at Cornell University sponsored by the company. He received his Ph.D. in 1947, and since has held several important research positions, his last being assistant director of research for organic and biological chemical sciences.

Dr. Knopf joined IMC in 1951 as supervisor-manager at the Florida Experiment Station and two years later was transferred to the Skokie, Ill., laboratories. In 1956, he was made assistant director of research for inorganic chemical sciences and physics.

Douglas Markets Dual Purpose Insecticide

KANSAS CITY—Topkote "77," a new ready-to-use combination surface protective spray and surface fumigant, has just been marketed by the Douglas Chemical Co. of 420 E. 16th Ave., North Kansas City 16, Mo.

Topkote "77," a dual purpose insecticide, fumigates the grain surface killing any insects present, and leaves a residual coating that continues to protect the grain surface from migratory insects, the company said. It can be applied with either a hand sprayer or a fog generator.

The spray is designed for insect control in mills, terminals, box cars, bakeries, and similar areas. One gallon will protect about 1,000 sq. ft. of grain surface; it is harmless to grains when used as directed, the company said.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Advertisements of new machinery, products and services accepted for insertion at minimum rate of $10 per column inch.

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CROP DUSTER KILLED

ROSWELL, N. M.—Ray C. Henderson, 44, crop-dusting pilot, was killed near here when his plane caught a guy cable running to a Walker Air Force Base structure. He crashed on the John Allen farm.

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Fall Fertilization, Need for Balanced Fertility Stressed at Wisconsin Ammonia Meeting
Minnesota Armyworm Campaign Saves $40 Million
DIRECT, PLANT DISEASE NOTES

Serving the Agricultural Chemical Industry . . .

Croplife is the weekly *news*paper for all phases of the industry from the manufacturers of basic chemicals down the production and distribution chain through the retail dealers. Croplife reaches *all* the key men in the industry. These groups are reading Croplife:

- **Fertilizer manufacturers, mixers and suppliers of fertilizer ingredients**
- **Formulators of Pesticides, Herbicides and other Farm Chemicals**
- **Retail Dealers selling fertilizer, farm chemicals and other farm supplies; Custom Sprayers, Pest Control Operators, and Nurserymen**
- **Farm Advisor Group—county agents, agriculture department officials, extension and experiment station personnel, soil conservation men, bankers and consultants**

Croplife, with a publishing schedule every 168 hours, is reporting news to the industry while it's still news! A staff of 21 crack newsmen in key U.S. cities and backed by 100 special correspondents provides the stop-press coverage of the industry required by readers who make the command decisions.

Croplife's unique distribution plan permits advertising (1) on the national level to the manufacturing core of the industry, and (2) on the regional basis to the marketing segment of the market. Ask a Croplife representative to elaborate on this in terms of your product!

Your advertisement in Croplife will share the *impact* and *import* of Croplife as it reports weekly to the men who create action in the agricultural chemical field.

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